UNDER THE PATRONAGE OF HER ROYAL HIGHNESS
LA PRINCESSE LALLA SALMA

3rd Congress of the African Middle Eastern Digestive Cancer Alliance
February 4 & 5, 2011 - Rabat - Morocco

Organised by
IDCA/WGO and WGO Rabat Training Centre

ESOPHAGEAL - GASTRIC - COLORECTAL AND LIVER CANCER
UPDATE OF THE DECLARATION OF RABAT 2008

Conferences - Symposia - Free papers - Posters
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Celebrate with us the 10th course of the WGO-Rabat training center!

Almost 10 years ago, through the initiative and dedicated but careful negotiations of Prof Meinhard Classen from Munich the Rabat WGO training center was created under the energetic leadership of its director Prof. Naïma Amrani. We all were present at the inauguration and could not foresee at that time that Rabat would become the pearl of the WGO-training centers. The facilities of the center are superb and ideally suited for small and larger group discussion and hand-on training sessions.

This is now already the tenth Rabat training center course and looking back, we all have witnessed the steady educational progress and the rising enthusiasm of the participants largely from francophone Africa, diligently selected by Prof. Amrani. To be truly appreciated is the dedication with which Prof. Amrani and her team design an equilibrated educational program, adapted to local unmet needs, yet incorporating all novel developments in Hepato-gastroenterology, offering a balanced mix of theoretical teaching and practical hands-on training, also applauded by a most distinguished foreign faculty over the years.

To measure the actual impact of the center activities on medical care in the homelands remains utterly difficult, but even without having exact figures, one can be assured that the impact is real and substantial. Bringing novel insights in hepatogastroenterology science and practice together with renewed professional enthusiasm, even to the most remote areas of (francophone) Africa is bound to raise the level of medical care and will contribute in narrowing the gap between emerging and developed countries, a world of solidarity!

What more can we do than to wish the Rabat center, its director and coworkers a long, happy and prosperous life, with continued building and expansion and belief in its precious educational role particularly in the discipline of Hepato-gastroenterology, so dear to our hearts. May the 2010 course expand and refresh knowledge and invigorate enthusiasm in all its participants, to be long remembered.

On behalf of Prof M Classen and Prof GNJ Tytgat
## Advisory Council 2010-2013

### Executive committee

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-chair (to 2010)</td>
<td>Sidney Winawer</td>
<td><a href="mailto:winawers@MSKCC.org">winawers@MSKCC.org</a></td>
</tr>
<tr>
<td>Co-chair</td>
<td>Guido Tytgat</td>
<td><a href="mailto:g.n.tytgat@amc.nl">g.n.tytgat@amc.nl</a></td>
</tr>
<tr>
<td>Officers</td>
<td>Thomas Seufferlein</td>
<td><a href="mailto:thomas.seufferlein@medizin.uni-halle.de">thomas.seufferlein@medizin.uni-halle.de</a></td>
</tr>
<tr>
<td></td>
<td>Meinhard Classen</td>
<td><a href="mailto:Meinhard.Classen@lrz.tu-muenchen.de">Meinhard.Classen@lrz.tu-muenchen.de</a></td>
</tr>
<tr>
<td></td>
<td>Joseph Geenen</td>
<td><a href="mailto:giconsults@aol.com">giconsults@aol.com</a></td>
</tr>
<tr>
<td></td>
<td>Linda Rabeneck</td>
<td><a href="mailto:Linda.Rabeneck@sw.ca">Linda.Rabeneck@sw.ca</a></td>
</tr>
<tr>
<td></td>
<td>Wolff Schmiegel</td>
<td><a href="mailto:wolff.schmiegel@ruh-unii-bochum.de">wolff.schmiegel@ruh-unii-bochum.de</a></td>
</tr>
<tr>
<td></td>
<td>Eric van Cutsem</td>
<td><a href="mailto:Eric.VanCutsem@uz.kuleuven.ac.be">Eric.VanCutsem@uz.kuleuven.ac.be</a></td>
</tr>
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<tr>
<th>Role</th>
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<tr>
<td>Officer WGO President</td>
<td>Richard Kozarek</td>
<td><a href="mailto:richard.kozarek@wmmc.org">richard.kozarek@wmmc.org</a></td>
</tr>
<tr>
<td>Councillors</td>
<td>Carolyn Aldige</td>
<td><a href="mailto:carolyn.alridge@preventcancer.org">carolyn.alridge@preventcancer.org</a></td>
</tr>
<tr>
<td></td>
<td>Alberto Montori</td>
<td><a href="mailto:alberto.montori@alice.it">alberto.montori@alice.it</a></td>
</tr>
<tr>
<td></td>
<td>Bernard Levin</td>
<td><a href="mailto:blevin2628@gmail.com">blevin2628@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>Christa Maar</td>
<td><a href="mailto:maar@foundation.burda.com">maar@foundation.burda.com</a></td>
</tr>
<tr>
<td></td>
<td>Robert Smith</td>
<td><a href="mailto:robert.smith@cancer.org">robert.smith@cancer.org</a></td>
</tr>
<tr>
<td></td>
<td>Graeme Young</td>
<td><a href="mailto:graeme.young@flinders.edu.au">graeme.young@flinders.edu.au</a></td>
</tr>
<tr>
<td></td>
<td>Wei-Cheng You</td>
<td><a href="mailto:weichengyou@yahoo.com">weichengyou@yahoo.com</a></td>
</tr>
<tr>
<td></td>
<td>San Ren Lin</td>
<td><a href="mailto:linsanren@medmail.com.cn">linsanren@medmail.com.cn</a></td>
</tr>
<tr>
<td></td>
<td>Naima Amrani</td>
<td><a href="mailto:n.amrani@um5s.net.ma">n.amrani@um5s.net.ma</a></td>
</tr>
<tr>
<td></td>
<td>Ann Zauber</td>
<td><a href="mailto:zaubera@mskcc.org">zaubera@mskcc.org</a></td>
</tr>
<tr>
<td></td>
<td>Maria Elena Martinez</td>
<td><a href="mailto:emartinez@azcc.arizona.edu">emartinez@azcc.arizona.edu</a></td>
</tr>
<tr>
<td></td>
<td>René Lambert</td>
<td><a href="mailto:Lambert@iarc.fr">Lambert@iarc.fr</a></td>
</tr>
<tr>
<td></td>
<td>Angelita Habr-Gama</td>
<td><a href="mailto:gamange@uol.com.br">gamange@uol.com.br</a></td>
</tr>
<tr>
<td></td>
<td>Vladimir Ivashkin</td>
<td><a href="mailto:gastro@orc.ru">gastro@orc.ru</a></td>
</tr>
<tr>
<td></td>
<td>Masaki Kitajima</td>
<td><a href="mailto:kitajima@sc.itc.keio.ac.jp">kitajima@sc.itc.keio.ac.jp</a></td>
</tr>
<tr>
<td></td>
<td>Ibrahim Mostafa</td>
<td><a href="mailto:ibrahimmostafa@egyptgastrohep.com">ibrahimmostafa@egyptgastrohep.com</a></td>
</tr>
<tr>
<td></td>
<td>Antoni Castells</td>
<td><a href="mailto:CASTELLS@clinic.ub.es">CASTELLS@clinic.ub.es</a></td>
</tr>
<tr>
<td></td>
<td>Enrique Quintero</td>
<td><a href="mailto:equinter@gmail.com">equinter@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>Asadur J.Tchekmedyian</td>
<td><a href="mailto:asadur@mednet.org.uy">asadur@mednet.org.uy</a></td>
</tr>
<tr>
<td></td>
<td>Massimo Crespi</td>
<td><a href="mailto:mcrespi@uni.net.tecsecretariat">mcrespi@uni.net.tecsecretariat</a>@omed.org</td>
</tr>
<tr>
<td></td>
<td>Nadir Arber</td>
<td><a href="mailto:nharber@post.tau.ac.il">nharber@post.tau.ac.il</a></td>
</tr>
<tr>
<td></td>
<td>Philippe Rougier</td>
<td><a href="mailto:rougier.philippe@wanadoo.fr">rougier.philippe@wanadoo.fr</a></td>
</tr>
<tr>
<td></td>
<td>Joseph Sung</td>
<td><a href="mailto:joesung@cuhk.edu.hk">joesung@cuhk.edu.hk</a></td>
</tr>
<tr>
<td></td>
<td>KL. Goh</td>
<td><a href="mailto:klgoh56@tm.net.my">klgoh56@tm.net.my</a></td>
</tr>
<tr>
<td></td>
<td>E. Kuipers</td>
<td><a href="mailto:e.t.kuipers@senter.nl">e.t.kuipers@senter.nl</a></td>
</tr>
<tr>
<td></td>
<td>Pedro Llorens Sabate</td>
<td><a href="mailto:gastrollorens@123mail.cl">gastrollorens@123mail.cl</a></td>
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3rd Congress of the African Middle Eastern Digestive Cancer Alliance
Celebration of the 10th anniversary of the Gastroenterology and Hepatology Training Course

WGO is very proud of the accomplishments of the Rabat Training Centre, and in particular, the excellence of training that has been and continues to be provided by the Centre to physicians living and working in the northwestern region of Africa and nearby locales. Representing the culmination of 10 years of success in training, the annual Gastroenterology and Hepatology Training Course is but one aspect of the broad range of initiatives undertaken in Rabat that have significantly impacted the knowledge and expertise of physicians in a region where the need for education and training in gastroenterology is profound. You are to be congratulated on your vision and commitment in this regard.

We highly value our collaboration with the Training Centre in Rabat and look forward to continuing our successful partnership in the years to come.

With warmest regards,

Richard Kozarek, MD
President
World Gastroenterology Organisation
WGO Training Center – Rabat

Goals of the WGO via Rabat Training Center

• To promote the highest standards in training in gastroenterology and endoscopy in the region
• To develop a curriculum for training based on current science, ethical principles

Hand in Hand with
1. Moroccan Government

Royaume du Maroc
Ministère de l’Enseignement Supérieur, de la recherche scientifique

2. WGO-RTC’s Partners
Come to Rabat on February 4 and 5!

Attend a top-drawer scientific congress on digestive oncology

Three years ago, we established the African Middle Eastern Digestive Cancer Alliance (AMDCA) on the occasion of a memorable congress in Rabat which was attended by nearly 500 colleagues from all over the world, but mainly from Africa and the Middle East. This demonstrated a significant level of interest in a field that had been neglected by too many gastroenterologists in the past — a lack of focus, which is all the more remarkable if we bear in mind that we have always had patients who were suffering from tumors of the digestive tract.

Screening for colon cancer enjoys a high priority in many western countries. It is generally accepted that the early detection of tumors or the removal of adenomas — early stages of colon cancer — can prevent the development of advanced colon cancer, significantly reducing the enormous costs that are involved in treating the later stages of the disease. Malignomas of the stomach and the liver are particularly wide-spread in certain regions of the East, South America and Africa. A large study in China — which has been planned with the cooperation of the IDCA and the Peking School of Oncology is dedicated to the hypothesis of preventing stomach carcinomas through the eradication of Helicobacter pylori. Endoscopists, meanwhile, need to assume a wide range of responsibilities not only in the prevention, but also in the diagnosis and the therapy of digestive tumors. We may expect with a certain degree of confidence that we shall soon be able to acquire histological images of the healthy and the diseased gastrointestinal tract through our endoscopes — which will not mean that we shall be ready to dispense with the services of the pathologists in confirming important diagnoses. In several European countries gastroenterologists apply the full range of therapy to their patients including chemotherapy and biologicals. In fundamental research, gastroenterologists have made key contributions to our current knowledge about the origins of tumors; others were helping with important clinical trials to broaden the range of our therapeutic arsenal in the fight against advanced carcinomas.

The forthcoming congress in Rabat will enrich the ongoing discussion of these subjects and update the “Declaration of Rabat” from 2008 which was aimed at combating the hepatocellular carcinoma in Africa.

Digestive oncology is a young yet broad field, equipped with facets of independence, which looks set to grace and enhance the wider field of gastroenterology. If that idea appeals to you, you should become a member of the AMDCA, the regional chapter of the International Digestive Cancer Alliance.

Meinhard Classen, Munich
Past co-chairman of IDCA
Welcome to the 10th anniversary of the WGO-RTC

I am especially honored to welcome you to the 3rd Congress of African Middle Eastern Cancer Alliance (MDCA) and celebrate together the 10th Annual Course of The Rabat Training Centre (RTC) of the World Gastroenterology Organization (WGO).

WGO-RTC is the commitment to promoting the highest standards in hepatogastroenterological training and education.

For those unfamiliar with the WGO-RTC, I can say that the Moroccan Ministry of Higher Education and the WGO have joined forces to launch a truly unique training Centre in the area (see: www.centreomge-rabat.org)

This centre is part of the Mohamed V-Souissi University and is located at the Medicine and Pharmacy Faculty of Rabat, near the academic Hospital Ibn Sina.

It is open to all gastroenterologists mainly from Africa, wishing to improve their theoretical and practical knowledge in the field of hepatology and gastroenterology.

The centre organizes 10-15-day training Annual Course for groups of about 55 gastroenterologists (40 to 74) on a regular basis, representing to date a total of about 500 trainees from 21 different countries: Afghanistan, Algeria, Benin, Burkina Faso, Cameroon, Chad, Congo Brazzaville, Democratic Republic of Congo, Djibouti, Gabon, Guinea, the Ivory Coast, Lebanon, Mali, Morocco, Madagascar, Mauritania, Palestine, Senegal, Syria, Togo and Tunisia.

It also gives African trainees the opportunity to stay for longer periods: from a few months to four or five years. The Centre claims the privilege of providing some African countries their first gastroenterologist.

The educational programme, which has been validated by different partners, is composed of theoretical courses and hands-on training for each module.

The priority is on practical training, with ultrasound and endoscopy technique, for both diagnostic and therapeutic purposes. The various tutorials available provide the opportunity to have a personalized educational programme, which can go from training on mechanical or computerized (symbionix) simulators to the acquisition of various endoscopic procedures on pig stomachs (EASIE models).

Our media centre, which is continually evolving, provides our trainees with electronic documents selected according to their didactic character. For attendees already familiar with endoscopy, we decided, in light of our first experiences, to replace live-transmission from the hospital by a companionship programme so that small groups of trainees can work with experts.

Interactive teaching plays an important role, including practical workshops and presentations of clinical cases. With the acquisition of videoconference equipment in 2006, telemedicine has been our hobbyhorse with the aim of giving gastroenterologists from other countries the opportunity to benefit from these courses.

Experts recognized worldwide for their competence and teaching skills run all sessions. They come from Austria, Belgium, Cameroon, Canada, France, Germany, Ireland, Italy, Libya, Morocco, The Netherlands, Portugal, Senegal, Sweden, Tunisia, Turkey and United Kingdom.

WGO-RTC is delighted by the assistance that we have obtained from the Moroccan academic hierarchy: University Mohammed5 Souissi, Faculty of Medicine and Pharmacy of Rabat, the Ibn Sina Hospital as well as its partners.

This 10th anniversary gives me the opportunity to warmly thank the Munich Gastroenterology Foundation and all scientific societies such as the Association des Sociétés Nationales et Méditerranéennes de Gastroentérologie (ASNEMGE), Société Nationale Française de Gastroentérologie (SNFGE), Association Française pour l’Etude du Foie (AEFF), Société Française d’Endoscopie Digestive (SFED) and Formation Médicale Continue en Hépato-Gastroentérologie (FMC-HGE), Société
Belge d’endoscopie digestive (BSGIE) and the Association Française de Chirurgie Hépatobiliaire et de Transplantation Hépatique (ACHBT). We were also glad to have the German Society for Digestive Endoscopy (DGE-VB) and the Club de Réflexion des Cabinets et Groupes d’Hépato-Gastroentérologie (CREGG) join us last year, as well as the Urban Community of Greater Nancy. We would like to thank all our partners for their support and confidence, which is an honour for us.

I would like to give a special thank to Prof. G. Tytgat for his annual participation, his clinical and scientific leadership and his pioneering and innovative contribution to promote gastroenterology, not only in WGO-RTC but to global gastroenterology.

WGO-RTC proudly recognizes the establishment of the Rabat WGO Traineeship to honour Professor Guido Tytgat as a Master of the WGO for his exemplary contributions.

This is an opportunity for me to pay a great tribute to Professor M. Classen, President of the Munich Gastroenterology Foundation and godfather of the WGO-RTC for his generosity, material and scientific.

Professor Classen is the founder of the Centre; he participated in its creation and contributed to its development. He has created a special link with the IDCA (International Digestive Cancer Alliance) which opens new opportunities for training and allows our center for enhancing its ambitions in digestive oncology.

Please join me in thanking all companies who have generously supported the 10 Courses of WGO-RTC and asking them to continue their involvement in the development of gastroenterology in emerging countries especially in Africa.

WGO-Rabat Training Centre is an ideal location for all partners to exchange ideas and experiences, renew old acquaintances and make new friends. This is why I am glad to see you at the 3rd African-Middle Eastern Congress of Digestive Oncology and to celebrate the 10th Annual Course of our Centre.

I wish you a happy new year and a good stay in Rabat.

Pr. Naïma AMRANI
WGO-RTC Director
Acknowledgements

The organizing Committee gratefully acknowledges the support of the following companies that have generously contributed to the organisation of the

3rd Congress of the African-Middle Eastern Cancer Alliance

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As per January 6th, 2011
3rd Congress of the African-Middle Eastern Digestive Cancer Alliance

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**Coordinators**
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Jaafar Alami (Morocco), Naïma Amrani (Morocco), Meinhard Classen (Germany), Christian Florent, Mouad Guedira (Morocco), Guido Tytgat (The Netherlands), Fernand Vicari (France)

**Organizing Committee**
Jaafar Alami (Morocco), Mohamed Acharki (Morocco), Naïma Amrani (Morocco), Laila Amrani (Morocco), Zakia Chaoui (Morocco), Toufiq Dakka (Morocco), Mouad Guedira (Morocco), Nawal Kabbaj (Morocco), Abdel Meguid Kassem (Egypt), M’hamed Nya (Morocco), Mouna Salihoun (Morocco), Ilham Serraj (Morocco)

**Organiser/Contact**
RTC Executive Secretariat
Faculté de Médecine et de Pharmacie
Université MohammedV – Rabat – B.P.6203 Rabat-Instituts (Morocco)
Tel./Fax: +212 537 67 08 61
E-mail: amnda2011@um5s.net.ma
www.centreomge-rabat.org

Pr Naïma Amrani
E-mail: n.amrani@um5s.net.ma

**Official Organizer**
Excellence Événement
Lot. Nasim N° 284/2 – Casablanca (Maroc)
Tel.: + 212 522 26 73 83 – Fax: + 212 522 26 73 83
E-mail: excellence.evenements@gmail.com
www.excellence-evenements.com

**Travel agency and tours**
Altair Tours international
467, avenue Mohamed V – Rabat 10000 (Maroc)
Tel.: 00212 537 729940 – Fax.: 00212 537
E-mail: Altair@menara.ma – Drafathamid@gmail.com
www.jevoyage.ma
## Programme

**Friday, February 4, 2011**

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<tr>
<th>Time</th>
<th>Session</th>
<th>Topics</th>
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<tr>
<td>09 h 00</td>
<td>Welcome / Opening of the congress</td>
<td>M.T. Aloui (Morocco), M. Classen (Germany), H. Abdel-Hamid (Egypt), R. Bakkali (Morocco)</td>
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<td>09 h 30</td>
<td>State-of-the art lecture</td>
<td>Ethical issues related to cancer, N. Guessous (Morocco)</td>
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<tr>
<td>09 h 50</td>
<td>Special lectures</td>
<td>Objectives and Impact of IDCA on global digestive cancer, M. Classen (Germany)</td>
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<td>10 h 05</td>
<td>Systemic treatment of colorectal cancer</td>
<td>W. Schmiegel (Germany)</td>
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<td>10 h 20</td>
<td>Contrast Enhanced Ultrasonography (CEUS) in gastrointestinal oncology</td>
<td>L. Greiner (Germany)</td>
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<td>10 h 35-11 h 00</td>
<td>Break</td>
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<td>11 h 00-12 h 30</td>
<td>Session 1: <strong>ESOPHAGEAL CANCER</strong></td>
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<td>Chairs:</td>
<td>G. Tytgat (The Netherlands), A. Essaid (Morocco), M. Ahallat (Morocco), F. Habib (Morocco)</td>
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<tr>
<td>11 h 00</td>
<td>Barrett's esophagus and esophageal adenocarcinoma</td>
<td>N. Belhadj (Tunisia)</td>
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<td>11 h 15</td>
<td>Squamous cancer in Africa</td>
<td>A. Kassem (Egypt)</td>
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<td>11 h 30</td>
<td>Esophageal columnar metaplasia and adenocarcinoma, a rising problem</td>
<td>G.N.J. Tytgat (The Netherlands)</td>
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<td>11 h 45</td>
<td>Esophageal cancer in Iran</td>
<td>A. Pourshams (Iran)</td>
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<td>12 h 00</td>
<td>Update in Endoscopic treatment</td>
<td>J.M. Canard (France)</td>
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<td>12 h 15</td>
<td>Discussion</td>
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<td>12 h 30-13 h 00</td>
<td>Free papers</td>
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<td>12 h 30</td>
<td>Esophagus cancer in the digestive endoscopy unit of the university hospital</td>
<td>Arndtis Le Dantec, ML. Bassene, D. Dia, ML. Diouf, M. Mbengue, A. Halim, S. Diallo (Senegal)</td>
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<td>12 h 37</td>
<td>Oesophageal cancer in Gezira-Sudan: a retrospective study of 73 cases</td>
<td>M. Elbalal, M. Elgaili Elgali, A. Eltayb Elgailani, N. Gasmelseed</td>
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<td>12 h 44</td>
<td>Dubai Classification of Barrett’s esophagus</td>
<td>A. Kayasheh (UAE)</td>
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<td>12 h 50</td>
<td>Discussion</td>
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<td>14 h 00-16 h 00</td>
<td>Session 2: <strong>GASTRIC CANCER</strong></td>
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<td>Chairs:</td>
<td>A. Aourarh (Morocco), Ph. Lévy (France), B. Gueddari (Morocco), I. Mostafa (Egypt)</td>
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<td>14 h 00</td>
<td>Should H. pylori screening and treatment of asymptomatic persons from high-risk populations be promoted in Africa and Middle East, to prevent gastric cancer?</td>
<td>J. Machado (Portugal)</td>
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<td>14 h 15</td>
<td>A large trial to prevent gastric cancer in Linqu (China), WC. You (China)</td>
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<td>14 h 30</td>
<td>Gastric cancer in Iran, S. Nasseri-Moghaddam (Iran)</td>
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<td>Low grade gastric lymphoma of Malt type, B. Buecher (France)</td>
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<td>15 h 00</td>
<td>Gastric endocrine Tumours: from ECLoma to gastric endocrine carcinoma, Ph. Lévy (France)</td>
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<td>15 h 15</td>
<td>Cancer of the cardia and oesophago-gastric junction, G. Tytgat (The Netherlands)</td>
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<td>15 h 30</td>
<td>Treatment of advanced gastric cancer: state of the art and future perspectives in 2010, A. Lièvre (France)</td>
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<td>15 h 45</td>
<td>Discussion</td>
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<td>16 h 00-16 h 30</td>
<td>Free papers</td>
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<td>16 h 00</td>
<td>Adenocarcinoma of the esophagogastric junction, K. Sake, N. Kabbaj, M. Salihou, M. Acharki, M. Nya, Z. Chaoui, I. Serraj, L. Amrani, N. Amrani (Morocco)</td>
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<td>16 h 07</td>
<td>Pathological profile of gastrointestinal cancers found in West Africa: A Review of the literature, AE Omonisi, OS Ojo (Nigeria)</td>
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<td>16 h 14</td>
<td>The gastric adenocarcinoma: experience of Marrakech Universitary Hospital, A. Diffaa, Z. Samlani, Y. Narjis, K. Rabbani, T. Aboulhassan, N. Samkaoui, B. Fenech, K. Krati (Morocco)</td>
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<tr>
<td>16 h 30</td>
<td>Discussion</td>
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<td>16 h 40-17 h 00</td>
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Saturday, February 5, 2011

08 h 30-10 h 00 Session 3:

**COLORECTAL CANCER I**

**Chairs:** K. Krati (Morocco), M. Younsi (Morocco), Th. Seufferlein (Germany), T. Najjar (Tunisia), A. Hrora (Morocco)

08 h 30 Hereditary forms of colorectal cancer, B. Buecher (France)

08 h 45 IBD related CRC: preventive aspects, G. Cadiot (France)

09 h 00 Guidelines for screening of CRC: what is feasible in Africa and Middle East? N. Amrani (Morocco)

09 h 15 Quality colonoscopy and missed lesions, Th. Seufferlein (Germany)

09 h 30 Colonic capsule: technique, results of the screening of CRC and future indications, M. Delvaux, G. Gay (France)

09 h 45 Anal cancer, a rising problem, J. Bartelsman (The Netherlands)

10 h 00 Discussion

10 h 15-11 h 00 **Free papers**

10 h 15 Impact of preparation quality on incomplete colonoscopies and on polyp's detection rate: Experience of Mongi Slim University Hospital, La Marsa, Tunis (Tunisia), H. Romdhane, S. Sabbegh, R. Hfaiedh, R. Ennaifer, H. Ben Nejma, N. Belhadj (Tunisia)

10 h 30 Malignant transformation of anal condyloma, S. Issaad, S. Nadir, R. Alaoui, A. Cherkaoui (Morocco)

10 h 45 Discussion

11 h 00-11 h 30 **Break**

11 h 30-12 h 30 **COLORECTAL CANCER II**

**Chairs:** H. Ouazzani (Morocco), A. Lièvre (France), M. Benazzouz (Morocco), Ch. Florent (France), M. Raiss (Morocco)

11 h 30 Medical treatment of advanced colorectal cancer – treatment options, Th. Seufferlein (Germany)

11 h 45 Palliative possibilities for obstructive intestinal malignancy, J. Bartelsman (The Netherlands)

12 h 00 Anti-angiogenic drugs in metastatic colorectal cancer, E. Mitry (France)

12 h 15 Discussion

12 h 30-13 h 00 **Special lecture**

**Chairs:** N. Guessous (Morocco), F. Vicari (France), N. Belhadj (Tunisia), J. Alami (Morocco)

For a Mediterranean cooperation in health: the example of cancer, J.-J. Denis (France)

13 h 00-14 h 00 Lunch

14 h 00-15 h 15 Session 4: **LIVER CANCER I**

**Chairs:** R. Alaoui (Morocco), A. Benkirane (Morocco), C. Yurdaydin (Turkey), M. Ateek (Egypt)

14 h 00 Liver Cancer in Africa and Middle East: Prevalence, Ethiology and management, S. Suliman (Sudan)

14 h 15 Whither virally-induced hepatocellular carcinoma in Sub-Saharan Africa, M. Kew (RSA)

14 h 30 HVC in the Middle East and the Egyptian program for management of HCV, G. Esmat (Egypt)

14 h 45 Liver cancer in Africa: is prevention feasible? M. Benazzouz (Morocco)

15 h 00 Prevention of HCC in patients with chronic viral hepatitis: the WGO perspective, C. Yurdaydin (Turkey)

15 h 15 Discussion

15 h 30-16 h 30 **LIVER CANCER II**

**Chairs:** N. Belhadj (Tunisia), D. Jamil (Morocco), A. Belkouchi (Morocco), S. Suliman (Sudan)

15 h 30 Liver and chemotherapy, P. Calès (France)

15 h 45 New diagnostic and therapeutic tools in HCC: histological diagnostic and prognostic markers, V. Paradis (France)

16 h 00 Validated options and medical perspectives for the treatment of HCC, S. Faivre (France)

16 h 15 Liver transplantation for hepatocellular carcinoma, E. Vibert, D. Castaing (France)

16 h 30 Discussion

16 h 45-17 h 00 **Break**

17 h 00-18 h 00 **Interactive Round Table**

– All against Hepatitis to prevent Hepatocellular carcinoma
– An attempt to formulate an updated “Declaration of Rabat”

**Chairs:** M. Classen (Germany), R. Hultcrantz (Sweden), A. Ullrich (Switzerland)

**Participants:** N. Amrani (Morocco), G. Esmat (Egypt), M. Kew (RSA), V. Paradis (France), P. Calès (France), S. Suliman (Sudan), C. Yurdaydin (Turkey)

– From chronic hepatitis to HCC, R. Hultcrantz (Sweden)
– WHO strategies to reduce the burden of liver cancer in Africa: Partnerships for implementation, A. Ullrich (Switzerland)

18 h 00-19 h 00 Session 6: **Novartis symposium**

VHB and Liver Cancer
Abstracts
STATE OF THE ART LECTURE

Ethical issues related to Cancer

Nouzha Guessous
Casablanca (Morocco)
Researcher & Consultant in Bioethics and Human Rights
Member of the Ethics Committee of ALECSO
Former Chair of the International Bioethics Committee of UNESCO

According to numerous data, 90 to 95% of cancer cases are associated to environment and quality of life factors. Exposure to sun, environmental pollutants and infections; quality of diet and physical activity, consumption patterns and toxic habits etc., are from the most common known associated factors. Thus cancers are among the so called “Lifestyle diseases”. Within this global perspective, ethics of cancer deal with several if not all aspects of ethics of life, health and research.

As the lifestyle is the result of personal and social choices, serious and complex ethical issues are related to cancer diseases. Some deals with the risks exposure and call on the social and political responsibilities. Quality of environment, access to safe alimentation and water are deeply correlated with socioeconomic situation and governance and raise several ethical and human rights questions. Individual choices such as smoking and alcohol consumption raise issues of autonomy and responsibility. Social and political health and environment governance and access to adequate prevention and care are from the most determinant parameters of the risk, the severity and prognosis of the disease. The special vulnerability of cancer patients raise several clinical and research ethics issues. The availability and the equitable access to quality cancer therapy and centres are very limiting factors in developing countries, adding vulnerability to poor and marginalized patients. Because of the still high mortality rate of cancers, major ethical questions are daily faced by the health professionals as well as the family dealing with cancer patients from the diagnosis to the final stages, including the content and method of information of the patient and/or the family, the therapeutic alternatives and their side effects vs. their rate of success, the quality of life for each therapeutic possibility, the pain management and the palliative care. Finally, research with cancer patients have to take into consideration specific ethical issues.

For all these aspects, cancer diseases ethics involves all the universal principles of bioethics and human rights, whose modalities of implementation are dependent socio-economic but also cultural contexts. These considerations highlight the necessity of ethics education of the health professionals and the promotion and education of ethics committees in cancer centers to assist patients, families and health professionals and researchers in decision-making.

SPECIAL LECTURES

Objectives and Impact of IDCA on global digestive Cancer

Meinhard Classen
Munich (Germany)

The International Digestive Cancer Alliance was founded in 2002 in Rome as a division of the WGO and separated friendly from WGO in 2010.

Background of the foundation was the dramatic number of digestive cancers with approximately 3 million new cases and more than 2 million deaths per year worldwide. IARC describes the future increase as “dramatic”. A recent survey by S. Winawer & A. Zauber revealed the interesting result that a majority of gastroenterologists worldwide wished to be more included in the medical treatment of the digestive cancer patients. The gastroenterologist already plays an important role in prevention, endoscopic diagnosis, staging, interventions, surveillance, nutritional support and management of GI complications of the disease and its therapies. Endoscopy and oncologic therapy made
considerable progress in the last 40 years. Newer and more effective chemotherapy regimens and also molecularly targeted agents are now in the daily use. In many countries there is a complex approach by multidisciplinary teams who jointly care of the cancer patient. However it is not infrequent gastroenterologists not being part of the team when it comes to the medical treatment.

On several continents gastroenterologists have made important contributions to GI medical oncology, in particular in Europe and North America. In Africa and Middle East the situation in digestive oncology is extremely diverse. In the lesser developed countries available resources, trained professionals and registries are rare and formal training dedicated to the management of digestive cancers does not exist. Hepatocellular carcinoma may be an exception, because gastroenterologists can play a more active role in diagnosis and local treatment. Palliation of cancer pain should become an important palliation measure.

Another concern Africa wide is the lack of HCC prevention by HBV immunization. Here national societies of GE, hepatology together with health officers, IDCA, WHo, AMAGE and WGO should work together and fight for this life saving prevention.

IDCA has been in the past an active motor of primary and secondary cancer prevention with workshops, symposia and public manifestations in many countries of the world. It has contributed to the formulation of national and international guidelines on cancer prevention and treatment.

Cancer epidemiology, the possibilities of prevention and management in the world are extremely diverse. Hence, IDCA has created regional chapters on all continents. The formulation of training requirements for the “Digestive Oncologist” is a critical task for IDCA and its chapters.

The African Middle Eastern chapter was founded in Rabat in 2008 (new name AMSDO). It continues to demonstrate its importance by the initiative to update the “Declaration of Rabat” on this congress together with officers of IDCA, WHO, WGO and the regional associations and the national society of Morocco.

On behalf of IDCA, I wish this congress the success it deserves.

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Systemic treatment of colorectal cancer

W Schmiegel

Medical Department, Knappschaftskrankenhaus, Ruhr-University, Bochum (Germany)

Colorectal cancer (CRC) is the second leading cause of cancer death in the western world. Almost every second patient dies of the disease. The introduction of new and effective chemotherapeutic substances and biologics in the past decade has significantly improved the systemic treatment of patients with CRC. In stage IV cancer, the choice of therapy is dependent on the clinical status of the patient. For some patients, primary resection of metastases or resection after combination therapy and downsizing of lesions offers a chance for cure. In resectable patients it remains unclear whether perioperative treatment is of benefit regarding progression free and overall survival. In unresectable patients with liver metastases only intensified combination therapy involving chemotherapy and monoclonal antibodies is the standard of care. Such treatment is called conversion chemotherapy because the goal of treatment is converted from "palliative" at the beginning of therapy when e.g. liver metastases are not resectable to "curative" when through downsizing of liver metastases lesions may be potentially resectable and thus curable.

In the pure palliative setting where metastases are considered never resectable, intensive combination treatment is indicated if the patient suffers from tumor related symptoms or a rapid progression of the disease. The aim of palliative therapy is the prolongation of survival and the improvement of quality of life. The combination with monoclonal antibodies leads to further improvement of survival. Furthermore, the introduction of the mutational status of the KRAS oncogene as the first predictive marker into clinical care is an important step towards the individualization of treatment in CRC.

When patients with metastatic disease are considered never resectable and do not suffer from tumor-related symptoms or have significant co-morbidities, monotherapy with 5-FU with or without bevacizumab may be feasible. Various studies have shown that overall survival is not decreased when patients are selected carefully for such a treatment strategy.
Contrast Enhanced Ultrasonography (CEUS) in Gastro-intestinal oncology

Lucas Greiner
ISCUS Director, Wuppertal (Germany)

Highly-reflectable particles injected intravenously and followed by real time ultrasonography (US) is what contrast enhanced US (CEUS) means. Highly reflective means bright echoes on the screen despite the limited size (erythrocyte-like or less) of the spherical particles injected intravenously. These particles are bubbles of gas encapsulated in sensitively swinging shells, reflecting weak but artefact-poor echoes (“harmonics”) once hit by specifically low energy diagnostic US waves. Real time monitoring of the bubbles in their perfusional distribution renders an important double-set of information: first, on the dynamics of perfusion, and second, on the vascular morphology of the region of interest. This sounds complicated but it is not, and CEUS as a completion of a normal US study is already now a routine in many clinical US settings.

In gastroenterology, CEUS has established indications in finding and defining focal lesions in liver (FLL), pancreas (FPL), spleen (FSL) (and other lymphnodes, too), kidneys (FKL), moreover in defining vascular abnormalities and perfusion disturbances in all vascular areas accessible for US. In FLL, typical features of perfusion and vascular morphology are described and accepted for focal nodular hyperplasia (FNH), hemangioma, abscess, adenoma, hepatocellular carcinoma (HCC), and metastatic disease. Diagnostic US guided intervention with fine needle puncture is less and less needed; the diagnostic yield for biopsies is fading.

At the time being, perfusional dynamic and vascularity differences in FPL are considered less pronounced. However, they can be helpful in enhancing probability of malignancy (low vascularity, rather late perfusion) or benign processes (no perfusion and no vascularity) in true cysts. In cystadenoma, cystadenocarcinoma, microcystic adenoma, IPMN, and others, data are still sparse; this work is in progress.

In emergency indications – e.g., in abdominal blunt trauma, or in organ ruptures – CEUS more and more turns out to be very helpful in showing the site of bleeding more precise than any other modality, and giving a precise idea of bleeding intensity. As always in US, bleeding and non-bleeding are diagnosed quickly, reliably, and safely by CEUS which is a true progress indeed.

Other indications for CEUS focus on activity in e.g. inflammatory bowel disease, on GI fistula, or on the position and efficacy of abdominal drainages.

In CEUS, we have another important tool in oncology and in benign conditions to improve clinical US performed by clinicians, and for saving unnecessary CT or MR-examinations. ISCUS, our International School for Clinical Ultrasonography* provides specific seminars dedicated to this CEUS technique.

* Ultrasonography@flyingfaculty.de

OESOPHAGEAL CANCER

Barrett’s oesophagus and oesophageal adenocarcinoma

Najet Belhadj
CHU Mongi Slim, La Marsa (Tunis)

Barrett’s oesophagus has been defined as a condition in which the normal stratified squamous epithelium of the oesophagus is replaced by metaplastic columnar epithelium. This disorder seems to be a complication of chronic gastro-oesophageal reflux disease even when it is asymptomatic.

Barrett’s oesophagus is a risk factor for the development of oesophageal adenocarcinoma, a cancer with persistently poor long term outcomes with a mortality rate greater than 85%.
The incidence of oesophageal adenocarcinoma has risen more rapidly than any other cancer in western countries, and there is evidence for increasing incidence in regions of Asia where the diagnosis was previously almost unknown. Current approaches for controlling oesophageal adenocarcinoma incidence and mortality are largely based on endoscopic investigation of symptomatic gastro-oesophageal reflux disease and histology-guided surveillance and treatment of people with Barrett’s oesophagus have considerable limitations. New oesophageal adenocarcinoma prevention strategies will be needed to overcome these limitations and decrease the current high mortality associated with oesophageal adenocarcinoma.

Advances have been made over the past decade in our understanding of host and environmental factors associated with oesophageal adenocarcinoma, including the role of obesity and the protective associations of Aspirin and other NSAIDs.

These and other factors can guide development of population risk models and assist the development of primary care risk models.

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Esophageal columnar metaplasia and adenocarcinoma, a rising problem

GNJ Tytgat
Academic Medical Centre, Amsterdam (The Netherlands)

During the last decades, the incidence of esophageal adenocarcinoma has increased almost by 400%. Most of those cancers are believed to develop from a precursor lesion, the so-called Barrett esophagus. Barrett esophagus is a condition in which the normal squamous lining of the distal esophagus has been replaced by columnar epithelium often with intestinal metaplasia. Malignant degeneration of Barrett esophagus is thought to be a multi-step process in which intestinal metaplasia progresses through low grade dysplasia and high grade intraepithelial neoplasia or dysplasia into intramucosal and ultimately invasive carcinoma. Endoscopic surveillance aimed at identifying patients with early and curable malignancy, is currently considered the monitoring technique of choice in patients with Barrett esophagus. Early neoplastic lesions are difficult to identify. In the absence of visible abnormalities, four quadrant biopsies are randomly taken for every two centimetres length of Barrett epithelium.

In the last decade, many new endoscopic techniques have been evaluated for their potential role in improving the accuracy of the detection of early neoplasia. High-resolution-high magnification endoscopes with high-quality CCD-chips (above 850,000 pixels) and a variable focal distance are now commercially available. High-resolution endoscopy can adequately distinguish areas of intestinal metaplasia from areas with gastric type mucosa. The detection of early neoplasia can be further enhanced by the use of dyes such as methylene blue and indigo carmine. Methylene blue is a vital stain that is absorbed in areas of intestinal metaplasia. Methylene blue staining is time consuming and operator dependent. Some therefore prefer to combine high-resolution endoscopy with indigo carmine contrast staining to delineate suspicious areas.

There are several new methods for modulation of the reflectance spectrum such as Narrow band Imaging, FICE and I-scan.

Narrow band imaging (NBI) is a high-resolution endoscopic technique that aims at enhancing the fine structure of the mucosal surface without the use of dyes. Apart from the standard RGB-band pass filters for white light endoscopy, the NBI system has a special set of RGB filters in which the band-pass ranges have been narrowed and the relative contribution of blue light has been increased and the red light has been eliminated. NBI improves the recognition of mucosal and vascular patterns in Barrett’s esophagus.

Tissue autofluorescence occurs when tissues are exposed to light of a short wavelength (usually ultraviolet or blue light) and certain endogenous biological substances (fluorophores) are excited causing them to emit fluorescent light of a longer wavelength. Early neoplastic changes cause a different autofluorescent wave pattern compared to normal tissue. The incidence of high-grade dysplasia and early cancer in Barrett patients is currently estimated at 0.5% per year. The cost-effectiveness of any screening and surveillance strategy has been questioned. The vast majority of Barrett patients will never develop esophageal cancer; thus including them in an expensive and labour intensive endoscopy program using high-tech imaging techniques is even more questionable. Hopes are set therefore, on the detection of molecular markers to identify those patients that are truly at risk for malignant degeneration.

The standard therapy for high-grade intraepithelial neoplasia / dysplasia or intramucosal early cancer in Barrett has always been radical esophagectomy. The five year survival rate after surgery in such patients is excellent. The
mortality and morbidity of this procedure, however, are 3-5% and 40-50% respectively, even in expert centres. With esophagectomy, the functional esophagus is lost, which may be associated with a reduced quality of life. Since the risk of lymph node involvement or metastasis to distant sites is small if not negligible in such cases, local endoscopic therapy might be a less invasive treatment alternative. Such endoscopic mucosal resection for high-grade dysplasia or mucosal cancer should only be performed after extensive work-up using high-resolution endoscopy, a standard biopsy protocol, expert histopathological evaluation and endoscopic ultrasound. Endoscopic mucosal resection has a low complication rate and preserves a functional esophagus. Various modalities are currently available such as cap-assisted or rubber band-assisted resection with or without prior lifting of the suspicious area. En-bloc resection is to be preferred. Other endoscopic ablation techniques should in principle only be used as an adjunct to mucosal resection except for the novel radiofrequency balloon-bipolar coagulation device which provides adequate destruction of the metaplastic mucosa with minimal risk of remaining ‘buried’ mucosal patches. However lack of a specimen for detailed pathological examination with the latter technique is a distinct disadvantage. After endoscopic treatment, rigorous follow-up is imperative since the remaining metaplastic Barrett mucosa remains at risk for neoplastic change if not removed or destroyed with radiofrequency. Whenever endoscopic resection or ablation has been carried out, lifelong acid suppression with PPIs is indicated. Ongoing studies so far show that control of the oncogenic potential is a realistic possibility.

Esophageal cancer in Iran

Akram Pours hams, R Malekzadeh et al.
Digestive Diseases Research Center, Tehran University of Medical Sciences, Teheran (Iran)

Introduction: Cancer death is the 3rd commonest causes of death in Iran. Golestan Province in north-eastern Iran has one of the highest incidence rates for esophageal Squamous Cell Carcinoma (ESCC) worldwide.

Methods: We are conducting a cohort study (GCS) [1] as well as a case control study to identify risk factors of ESCC in Golestan, Iran. GCS was launched in July 2004, after reporting feasibility of the study [2]. In June 2008, the goal of 50,000 subjects, aged 40-75 years, and 80% from rural inhabitants, was reached. From all participants a comprehensive questionnaire and biologic samples (blood, urine, nail and hair) were taken. All subjects are being follow up actively every 12 months. Several sub-studies are conducting within the GCS.

Primary results: Among GCS, 60% of men had never smoked tobacco, and 92% had never used alcohol. The rates of tobacco smoking and consumption of alcohol are negligible in women. About 22% of men and 7% of women are current opium users. Using the teriak or shireh form of opium was associated with higher risk of ESCC; adjusted ORs (95% CIs) for teriak use only, shireh use only, or use of both were 1.62 (1.09-2.40), 3.41 (1.35-8.60), and 8.80 (2.28-33.9) respectively by a case-control design. About 98% of the cohort participants drank black tea regularly, with a mean volume consumed of > 1 Liter/d, 39.0% of participants drank their tea at temperatures less than 60°C, 38.9% at 60-64°C, and 22.0% at ≥ 65°C. The results of the case-control study showed that compared with drinking lukewarm or warm tea, drinking hot tea (OR: 2.07, 95% CI; 1.28-3.35) or very hot tea (OR: 8.16, CI; 3.93-16.9) was associated with an increased risk of ESCC. Low intake of vegetable, fruit and vitamins especially among rural women are very common. Poor oral health is common and low socioeconomic status has been associated with higher risk of ESCC in Iran. Exposure to polycyclic aromatic hydrocarbons, a carcinogen, estimated by measuring a stable urinary metabolite, was high in the great majority of the cohort participants, most of whom were non smokers, most probably due to cooking method. Selenium deficiency is not a risk factor for ESCC in the region. Contamination with carcinogenic mycotoxins was not found as a risk for ESCC.

Conclusions: Association of tobacco and alcohol use with ESCC in our studies is not as strong as that seen in Western countries. Hot tea drinking, opium use, and low intake of fresh vegetable and fruit have the strongest association with ESCC in Golestan, Iran.

Références
Esophagus cancer in the digestive endoscopy unit of the University Hospital Aristide Le Dantec

ML Bassene, D Dia, ML Diouf, M Mbengue, A Halim, S Diallo
Hepato-gastroenterology unit, CHU Aristide Le Dantec, Dakar (Sénégal)

Introduction: Esophagus cancer remained for a long time in the background in Black Africa, masked by the fight against the contagious diseases. Consequently, few works were dedicated to this disease. The aim of our study was to determine the prevalence of esophagus cancer in the digestive endoscopy unit of the University Hospital Aristide Le Dantec in Dakar and to describe its epidemiological, clinical, endoscopic and histological aspects.

Materials and method: This retrospective study covered a 4-year period from January 2006 to December 2009. The population studied consisted of all patients sent for upper digestive endoscopy during this period, irrespective of the reason. All patients in whom an esophagus cancer was discovered were included. For each patient we collected and analyzed age, sex, indications for the endoscopy, description of esophagus lesions revealed by endoscopy and the results of the anatomo-pathological examination of the esophagus biopsies.

Results: We included 76 patients. Prevalence of esophagus cancer was 0.97%. The mean age of patients was 49 years (extremes: 12-85 years). 70% of the patients were under 60 years old. There were 50 men (66%) and 26 women (34%). The main indication of the endoscopic examination was dysphagia, which was present in 70 patients (92.1% of the cases). An odynophagia was found in 10 patients. Other indications for endoscopy were a thoracic pain in 2 cases (2.63%), epigastralgia in 2 cases (2.63%), anemia in 1 case (1.31%) and hematemesis in 1 case (1.31%). The endoscopic examination revealed ulcers and granulation in 32 patients (42.3% of the cases), only granulation in 22 patients (29% of the cases), nodes or polypoid lesions in 9 patients (12% of the cases), ulcers and necrosis in 7 patients (9% of the cases) and only ulcers in 6 patients (8% of the cases).

A stenosis was present in 67 patients (88% of the cases). The stenosis was unbridgeable by the endoscope in 11 cases. The cancerous lesions sat in the mid third of the esophagus in 38 patients (50% of the cases), in the lower third in 28 patients (37% of the cases) and in the upper third in 10 patients (13% of the cases). An esophagus candidiasis associated with the esophagus tumor was found in 10 cases and a gastric tumor in 5 cases. The histology revealed the presence of a squamous cell carcinoma in 70 patients (92% of the cases) and an adenocarcinoma in 6 patients (8% of the cases).

Conclusion: Prevalence of esophagus cancer in the endoscopy unit of the University Hospital Aristide Le Dantec is low. It arises mostly in a young population with a clear male predominance. The main symptom is dysphagia and the squamous cell carcinoma represents the most frequent histological type. However a multicenter study is necessary.

Oesophageal cancer in Gezira-Sudan:
a retrospective study of 73 cases

Mohammed Moawia Elbalal, M Elgaili Elgaili, A Eltayb Elgaylani, Nagla Gasmelseed
1 Department of Medicine, Faculty of Medicine, National Cancer Institute, 2 Department of Oncology, National Cancer Institute, 3 Department of Pathology, Faculty of Medicine, 4 Department of Molecular Biology, National Cancer Institute, University of Gezira (Sudan)

Background: Oesophageal Cancer (OC) is a disease with a wide variation between countries and within ethnic groups and populations of a country. The majority of cases occur in developing countries. The most common histological type is squamous cell carcinoma (SCC), and adenocarcinoma (AC). Histologically, OC varies along the oesophageal length. In Sudan, the occurrence of OC is understudied.

Objective: This study aims to review the clinical aspects of oesophageal carcinoma in Sudanese patients referred to endoscopy in Gezira, Central Sudan and to compare to national and internationally published series.
**Patients and Method:** Data were collected from patients who underwent endoscopy during the period from January 2005 to December 2006 at The Gezira Centre for Gastroenterology, Endoscopies and Laparoscopic Surgery (GCGELS). Demographic and clinical data including sex, age, residence, clinical presentation, tumour site and morphology were collected and later analyzed.

**Results:** During the two-year interval, 702 patients: 374/702 (53.3%) were males, 328/702 (46.7%) were females, consecutively referred to our centre for endoscopy. Seventy three patients (9.6%) proved to have oesophageal cancer (OC). Fifty five out of 73 patients (75.3%) were females generating a male to females' ratio of 1:3. The mean age of females is 52.75 ± 11.66 years and that of males 66.11 ± 9.52. 16 (21.9%) patients came from the Managil area, 14 (19.2%) came from Hasaheesa and Rufaa, while the same, 14 (19.2%) came from Dindir and Sinnar (Blue Nile); 10 (13.7%) in Wadmedani (Central Sudan) and 19 (26%) were located in Elfaw and Kassala. In most cases (75.3%), the tumours were located at the lower third of the oesophagus area 79.5% of the tumours were squamous cell type.

**Conclusion:** OC is not uncommon in Central Sudan. Although previous OC case series from Sudan register a 1:1 male-female ratio, patients referred for endoscopy to the GCGELS in Gezira revealed a greater proportion of women than of men diagnosed with the disease (1:3.3). Risk factors may include poverty and malnutrition. More studies are needed to investigate the epidemiology of this disease and to identify the reason of the apparent gender uneven manifestation.

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**Dubai Classification of Barrett’s Esophagus: Project**

M Azzam Kayasseh (UAE)

In Barrett’s Esophagus (BE) classification, most authors adopted their own individual classification. A major concern is not yet generally accepted classification for ME (NBI/I-Scan or FICE) appearance in Barrett’s Esophagus. In the absence of an agreed classification in B.E., it is difficult to compare the findings presented in different papers. The benefit of the new classification of Barrett’s Esophagus (Dubai Classification) and the new biopsy protocol (Dubai Biopsy Protocol) is to increase the adherence significantly, to improve the pre-malignant change detection thus positively improving the patients’ management.

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**GASTRIC CANCER**

**A large trial to prevent gastric cancer in Linqu, China**

Wei-cheng You

Peking University School of Oncology, Beijing Cancer Hospital & Institute, 52 Fu-cheng Road, Hai-dian District, Beijing 100142 (China)

Gastric cancer (GC) is the second leading cancer cause of mortality worldwide and accounts for 40% of cancer deaths in Linqu County, a high risk area of GC in China. The prevalence of *Helicobacter pylori* (*H. pylori*) is 70% among adults and is associated with a two-fold or greater increased risk for GC and its precursors in this region. To assess whether GC can be prevented by eradication of *H. pylori*, a large randomized, controlled intervention trial will be conducted in Linqu County.

This new study will be a collaborative investigation between the Peking University School of Oncology (PUSO), the Technische Universität München (TUM) and the International Digestive Cancer Alliance (IDCA). A panel of international and Chinese leading experts will be actively involved in this study. We plan to screen approximately 200,000 residents aged 25-54 from 500 villages of Linqu County. After determination of the status of *H. pylori* infection by 13C-urea breath test (13C-UBT), we estimate that 140,000 (70%) participants will be *H. pylori* positive. These 140,000 subjects will be enrolled in the intervention study and randomized for treatment and placebo groups by villages (250 villages with 70,000 participants in each arm). All participants in the trial will be followed at least for 10 years to assess the incidence rate of GC in two arms.

This study is probably the last chance to scientifically prove that *H. pylori* is indeed causing gastric malignancy that can be avoided by eradication of *H. pylori*. The design, pilot study, and initiation of this trial will be presented.
Low grade gastric lymphoma of MALT type

Bruno Buecher
Institut Curie, Paris (France)

Low grade gastric marginal zone lymphomas of MALT type represent approximately 50% of all primary gastric lymphomas. They have an indolent course and are strongly associated with Helicobacter pylori (Hp) infection. In Hp-positive patients, eradication therapy is the first line treatment for localized forms, which can achieve complete remission in the vast majority of cases. Treatment options are still controversial in patients with Hp-negative disease and in those not responding to eradication. This lecture will address the different issues relative to low grade gastric MALT lymphoma: clinical presentation, diagnosis, staging, molecular alterations associated with lymphoma genesis, clinical and biological factors predictive of complete remission after Hp eradication and treatment.

Gastric carcinoid: from ECLoma to carcinoma

Philippe Lévy
Service de Pancréatologie-Gastroentérologie, Pôle des Maladies de l’Appareil Digestif, Hôpital Beaujon, Clichy (France)

Gastric carcinoid tumours account for about 0.5-1% of gastric polyps. Type I and II are secondary to hypergastrinemia due to atrophic gastritis and Zollinger Ellison syndrome (only in case of multiple endocrine neoplasia), respectively. Serum gastrin and chromogranin A are elevated in both type I and II. Endoscopic resection is more and more used but experienced endoscopist is warranted. Surveillance is commonly practised but there are little evidenced-based data. Surgery is debated especially in type I. There is accumulating evidence for somatostatin analogue therapy. Type III is a sporadic malignant aggressive tumour. Node or hepatic metastases are encountered in 50-100% of the cases. Tumour related deaths are exceptional in type I and II but, on the contrary, occurs in 25-30% of type III.

Cancer of the cardia and esophagogastric junction

GNJ Tytgat
Academic Medical Center, Amsterdam (The Netherlands)

Cardia cancer is common and increasing. Severe atrophic gastritis and intestinal metaplasia is common in the subgroup of cardia cancer patients with H. pylori infection. The other subgroup has somewhat less severe atrophic gastritis. This pattern is consistent with two disparate etiologies, one associated with H. pylori atrophic gastritis and resembling non-cardia cancer and the other being negatively associated with H. pylori infection and thus resembling esophageal adenocarcinoma. In the cardia cancers associated with gastric atrophy, the ratio of intestinal to diffuse histological subtypes is 1:1, resembling distal gastric cancer; whereas in cardia cancers with no evidence of gastric atrophy, the ratio is more than 8:1, resembling that seen in esophageal adenocarcinoma. An association between cardia cancer and GERD symptoms is only present in patients without evidence of gastric atrophy. Clinically it is often difficult to determine whether adenocarcinoma at the cardia and esophagogastric junction has arisen from the esophagus or from the stomach, which might perhaps be of importance in deciding on optimal surgical management. Examination of the state of the uninvolved gastric mucosa with respect to the presence of atrophic gastritis along with details of previous GERD symptoms and histology of the tumor, may allow classification of the cancer into gastric or esophageal in origin. The further staging of esophagogastric junctional cancers (EGJ) is usually done according to the Siewert classification: Type I is believed to develop from esophageal columnar metaplasia; Type II has its epicenter located between 1 cm proximal and 2 cm distal of the EGJ and is considered true cardia cancer; Type III is considered as subcardia cancer. Irrespective of the etiology, a complete removal of the primary tumor and its lymphatic drainage has to be the primary goal. The individualized strategy prescribes a transmediastinal esophagectomy with lymphadenectomy in the
lower posterior mediastinum and along the celiac axis for Type I tumors, extended total gastrectomy with transhiatal resection of the distal esophagus and D2 lymphadenectomy for Type II and III tumors, limited resection of the EG junction and distal esophagus with interposition of a pedicled jejuna segment for uT1NO tumors and neoadjuvant chemotherapy followed by resection for uT3/T4 tumors. Accurate preoperative staging is essential for correct selection of the appropriate therapeutic strategy using such tailored approach.

Treatment of advanced gastric cancer: state of the art and future perspectives in 2010

Astrid Lièvre
Hépato-Gastroentérologie, Hôpital Ambroise Paré, Boulogne-Billancourt
Université Versailles, Saint-Quentin en Yvelines, Versailles (France)

Despite the observation that gastric cancer incidence in western countries is decreasing, this disease is still a significant global health care problem worldwide since it represents the 4th most common cancer (900,000 cases diagnosed each year) and the second most common cause of cancer-related death, with around 700,000 deaths a year. Unfortunately, most patients will present with advanced-stage disease, and will therefore need palliative chemotherapy. This chemotherapy has proved to be superior to best supportive care in a meta-analysis in which best survival results were achieved with a combination of 5-FU, cisplatin and an anthracycline (median overall survival of 7 to 9 months versus 5 to 6 months with best supportive care). The modest survival benefit obtained with this « classical » combination is also associated with significant toxicities in numerous patients having a poor performance status due to the tumor disease itself and/or the digestive occlusion often observed in this disease. That is why new anti-tumor agents and combinations have been developed, containing docetaxel, irinotecan, oxaliplatin and/or capecitabine, with the aim to be more efficient or simply more convenient or better tolerated. If several combinations have been proved to be efficient and more convenient for the patient, such as DCF (Docetaxel, Cisplatin, 5-FU), ECX (Epirubicin, Cisplatin, Capecitabine), EOX (Epirubicin, Oxaliplatin, Capecitabine), IF or FOLFIRI (5-FU, irinotecan), FOLFOX or FLO (5-FU, oxaliplatin), none of them was shown to be superior to the others. A meta-analysis clearly showed that a combined chemotherapy was superior to a monochemotherapy but is also associated with more toxicity, which requires the selection of patients that benefit from these treatments. Therefore, there is currently no international consensus on one « standard » regimen in first-line treatment of advanced gastric cancer. Recently and for the first time, a targeted therapy, the anti-HER2 antibody trastuzumab, has demonstrated its effectiveness in the treatment of this type of cancer and its superiority to a fluoropyrimidine plus cisplatin combination. But the benefit of this anti-HER2 therapy concerns only the 20% of tumors overexpressing HER2. Nevertheless, a better understanding of molecular alterations that characterize gastric adenocarcinoma has allowed identifying new therapeutic targets, leading to the current evaluation of other targeted therapies offering new perspectives of treatment of this disease in which the benefit of a second line chemotherapy has also not yet been demonstrated.

FREE PAPERS

Adenocarcinoma of the esophagogastric junction

Khadijatou Sake, Nawal Kabbaj, Mouna Salihoun, Mohamed Acharki, M’hamed Nya, Zakia Chaoui, Ilham Serraj, Laïla Amrani, Naïma Amrani
EFD-Hepatogastroenterology Unit, Hospital Ibn Sina, UMSS, Rabat (Morocco)

Background: Incidence of cardia cancer is increasing. There had never been a clear definition before Siewert’s classification, which was approved in 1997. The aims of this study are to assess the frequency and the clinicopathological characteristics of adenocarcinoma of the esophagogastric junction on basis of this classification.
**Patients and methods:** All patients with adenocarcinoma of the esophagogastric junction were included from January 2001 to December 2010. Diagnosis was confirmed on histology of biopsies. Patients with oesophagus carcinoma were excluded.

**Results:** 35 patients out of 13,290 upper digestive endoscopies (0.3%) were included. 31 patients were males (88.6%) and 4 patients were females (11.4%), mean age was 57.6 years. Clinical manifestations were dysphagia and low weight in all patients, epigastrium pain in 22.8%, vomiting in 17.1%, anemia in 14.3%, hematemesis in 8.6% and chest pain in 5.7%. 22 patients (62.9%) had adenocarcinoma of cardia type I, 8 patients (22.9%) of type II and 5 patients (14.2%) of type III.

**Conclusion:** Adenocarcinoma of the esophagogastric junction is frequent in males. Type I is the most frequent followed by type II and type III. This distribution of the three types in our series is similar to the results of many studies reported in literature.

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### The pathological profile of gastrointestinal cancers found in West Africa: A Review of the literature

**AE Omonisi, OS Ojo**

Department of Morbid Anatomy & Forensic Medicine, Obafemi Awolowo, University and Teaching Hospital, Ile-Ife (Nigeria)

**Context:** Gastrointestinal tract cancers are notably uncommon in West Africa when compared with the very high incidence in the developed regions of the world. Although some studies have reported an increasing trend, it is very difficult to justify this argument as there was no evidence of previous longitudinal study on gastrointestinal tract cancers in the sub region documented in the literature.

The exact reasons for the low incidence are obscure. For example, in the case of the lower tract, ulcerative colitis, diverticulitis, polyposis coli, and adenomatous polyps would appear to be uncommon in West Africa and this rarity may partially be responsible for low incidence of GI tract cancer in this the sub region. In addition, there is some evidence to suggest that the diet plays a more important role, as it is noted that the diet of West Africans largely consists of bulk fibre foods, while that of the populations with a high incidence largely consists of meats and animal products, which were thought to be the sources of the putative carcinogens responsible for these cancers.

The pathological features of GI tract cancers found in the sub region do not seem different from those in populations with high incidence areas except that most of our patients tend to present at younger ages and in clinically later stages and are apt to present with fungating masses, which run fulminant courses and have poor prognostic outcomes.

**Aim:** Our purpose is to review the available literature on pathological characteristics of GI tract cancers found in the tropical West Africa.

**Material and Methods:** Articles published both locally and internationally on gastrointestinal tract cancers were reviewed and particularly various research work done across the sub region.

**Conclusions:** Gastrointestinal tract cancers are not uncommon in the West Africa. The pathological characteristics show similarities with those from areas with high incidence of the cancers. While epidemiological studies are called for, it is also important to investigate whether the molecular characteristics of these cancers are similar to those that occur in the high incidence areas.

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### Gastric adenocarcinoma: Experience of Marrakech University Hospital

**A Diffaa, Z. Samlani, Y. Narjis, K. Rabbani; T. Aboulhassan, N. Samkaoui, B. Finech, K. Krati**

Department of Hepato-Gastroenterology, general surgery and reanimation department, Cadi Ayyad University, University Hospital Med VI, Marrakech (Morocco)

**Aim:** Gastric adenocarcinoma is the first digestive cancer in Morocco. The aim is to study the epidemiological, clinical, endoscopic and therapeutic characteristic of our patients.
Patients and methods: Retrospective descriptive study between January 2004 and November 2010 about all the observations of gastric adenocarcinoma hospitalized in the hepato-gastroenterology unit of CHU Mohamed VI in Marrakech, Morocco.

Results: Our series has included 100 cases (59 males and 41 females), sex ratio was 1.44. The mean age was 55.52 years [21-82 years]. The mean delay of consultation was 14.2 months. The epigastric pain and weight loss represents 86% of the causes of consultations. The clinical examination revealed epigastric sensibility in 51% of cases, a mass dans 12% of the cases, hepatomegaly in 10% of cases. Endoscopy noted antral tumor in 38% of cases. The adenocarcinoma was poorly differentiated in 32% of cases and moderately differentiated in 28%. Imaging noted loco-regional lymph nodes in 19% of cases and metastases in 22%. The treatment was a pre-operative chemotherapy in 29% of cases. The curative surgery was performed in 15% cases and the correlation between CT and surgery was good in 11% of cases. Palliative surgery was done in 6% of cases and adjuvant chemoradiotherapy in 6% of cases. Four patients died before treatment, one case with chemotherapy. One recurrence was noted. In four cases no recurrence with a 10-month follow-up; for the other patients we do not have follow-up data.

Conclusion: Our study noted a high diagnosis delay and frequency of undifferentiated forms.

Population-attributable risks of gastric cancer

A Ouakâa-Kchaou, A Kochlef, D Gargouri, S Jebali, H Elloumi, J Kherrat, A Ghorbel
Gastroenterology unit, Habib Thameur Hospital, Tunis (Tunisia)

Background and aim: Although Helicobacter pylori infection is a major risk factor for gastric cancer, it does not explain the full picture of stomach carcinogenesis. There have been discrepancies in epidemiologic studies regarding the etiopathogenesis of gastric cancer. Studies suggested that in young patients genetic factors are important, while in old patients gastric cancer is closely associated with environmental factors.

In this study, we analyzed the interaction between these factors and gastric cancer.

Methods: Consecutive patients with gastric adenocarcinoma were enrolled. Patients were stratified into two groups: Group 1 (age < 45 years, n = 17) and Group 2 (≥ 70 years, n = 34) and compared according to pathogenic factors.

Results: In group 1, we noted a significant predominance of female gender (sex-ratio = 0.3) as well as diffuse type of Lauren, suggesting the role of host factors. In the second group we retrieved a higher prevalence of Helicobacter pylori (HP) infection as well as related precancerous lesions such as atrophic gastritis, intestinal metaplasia and dysplasia. We also noted in this group, a higher frequency of smoking, suggesting the role of environmental factors.

Conclusion: In the young population, genetic studies should identify a risk group to develop a gastric adenocarcinoma, justifying an early screening. In the old population, smoking cessation, dietary modification and Hp eradication may be practical strategies for the prevention of gastric cancer.

COLORECTAL CANCER

Hereditary forms of colorectal cancer

Bruno Buecher
Institut Curie, Paris (France)

Approximately 5% of all colorectal cancer cases arise in the setting of a well-defined inherited syndrome including Lynch syndrome, APC or MYH associated adenomatous polyposis and two hamartomatous polyposis, namely the Peutz-Jeghers syndrome and the juvenile polyposis. Although rare, these conditions are associated with a very high lifetime risk of colorectal cancer and, for some of these, of several other cancers. It is therefore very important to identify them in order to establish appropriate screening guidelines. Moreover, the identification of the responsible germline mutation, will allow for molecular testing of at-risk relatives. We will consider these different aspects with a special attention to Lynch syndrome diagnosis strategy.
Guidelines for screening of colorectal cancer: What is feasible In Africa and Middle East?

Naïma Amrani
EFD – Hepatogastroenterology Unit, Hospital Ibn Sina, UM55, Rabat (Morocco)

Colorectal cancer (CRC) is a worldwide problem, with an annual incidence of approximately 1 million cases and an annual mortality of more than 500,000. Due to the population becoming older, the frequency of CRC will increase in both developed and developing countries. The risk for CRC varies from one country to the other and even within countries. The risk also varies among individual people based on diet, lifestyle, and hereditary factors. But, up to 80% of CRC arise from adenoma, few are hereditary of familial. So the most common neoplastic outcome of colorectal cancer screening is the adenoma. Polypectomy and surveillance reduce CRC incidence up to 90%. This is why screening and early detection are most important. The screening consists of testing asymptomatic men and women who are likely to have polyps or cancer. After removal, patients need to be placed in a follow-up program, like for patients with premalignant or identified and treated cancer. Different screening options are available. There are two large categories:

1) Tests used for early detection of CRC. They decrease mortality
   - Guaiac fecal occult blood test (gFOBT), Immunochemical fecal occult blood test (FIT), Stool DNA test.
2) Techniques used for prevention. They are more likely to detect adenoma and cancers, like Flexible Sigmoidoscopy, Colonoscopy, Computed Tomographic Colonoscopy and Double Contrast Barium Enema (DCBE). They decrease incidence.

In the future, technical progress like the wireless capsule endoscopy for the colon and innovations in current colonoscopes could improve prevention.

It is widely agreed that quality screening schemes are characterized by the existence of guidelines and national laws. This guidelines as well as national screening programmes and surveillance already exist in many countries: Europe, Western Pacific Rim, and North America.

What about screening in Africa and Middle East?
CRC is classically reported to be uncommon in this area but important recent studies showed that CRC incidence is increasing. These data were recently confirmed in many conferences. The mean age is much younger than that reported in European and American studies and patients younger than 40 years represented around 30% in African and Arabian studies as well as in African-Americans people.

Unfortunately, colorectal cancer screening is particularly challenging, because of limited awareness of the disease, difficulties with healthcare access, lack of resources. At least, it is not a priority for health authorities in most African developing countries.

Due to many limitations, the World Gastroenterology Organization (WGO) in collaboration with International Digestive Cancer Alliance (IDCA), have developed the concept of cascades in order to increase the implementation of guidelines for CRC screening in developing countries.

The CRC screening cascade consists of a set of recommendations arranged hierarchically in terms of conditions and available resources aiming at the same outcome. The recommendations apply to different resource levels, beginning with 1 (highest resources) and ending with 6 (minimal resources available).

When screening resources are severely limited, the most realistic option would be fecal occult blood testing every year or two for average-risk, starting at the age of 50 or may be earlier at the age of 45 in our area! Abnormal tests should be followed by timely diagnostic investigation and treatment.

Conclusion: CRC is a worldwide problem. Prevention is possible and screening could decrease incidence and mortality in both developing and developed countries. This screening should be feasible in Africa and Middle East where CRC incidence is increasing.

Depending on available resources and population cultures of each country, any test will lower incidence and mortality compared to no screening, because “the best test is the one that gets done” S. Winawer says. The major challenge is how to make this screening feasible in our area.

Where to find help
IDCA: International Digestive Cancer Alliance
The mission of the International Digestive Cancer Alliance is to promote the prevention and management of digestive cancers worldwide through an international alliance of organizations that share the same goal.
Quality colonoscopy and missed lesions

Thomas Seufferlein
Medizin Universitätsklinik und Poliklinik für Innere Medizin I, Halle, Saale (Germany)

Interval colorectal cancers are colorectal cancers (CRCs) that are detected in patients having received prior colonoscopies. They arise from missed lesions, incomplete resections of adenomas, or de novo. Since these different causes have rather distinct consequences, ranging from improving the quality of colonoscopy and polypectomy to secondary prevention, it is important to determine the contribution of each cause to interval cancers. Some assumptions can be made from the literature e.g. adenoma missed rates, cancer prevalence among patients with adenoma as judged from the size of the adenoma, and rates of adenoma-to-cancer transitions. If one applies risk estimates based on these assumptions to a hypothetical average-risk population that has undergone screening colonoscopy one can calculate the proportion of individuals with tumors missed at the baseline colonoscopy and tumors that arise from missed adenomas during a 5-year follow-up period. Following such an algorithm one can assume that about 0.7 per 1,000 persons undergoing a screening colonoscopy have a cancer that was missed at the baseline colonoscopy. In addition, about 1.1 per 1,000, subsequently develop cancer from a missed adenoma. Thus, an expected rate of individuals with CRC, based on missed adenomas, would be 1.8 per 1000 persons within 5 years. Thus, a significant number of patients undergoing a screening colonoscopy that did not detect cancer do have a malignant lesion or adenoma that could progress in a short interval. Many interval cancers might therefore reflect missed lesions rather than de novo lesions. Methods to improve adenoma detection during colonoscopy to reduce the rate of interval cancers will be discussed in the talk.

The role of colonic capsule in colo-rectal cancer screening

Michel Delvaux, Gérard Gay
Dept of Internal Medicine and Digestive Pathology, Hôpitaux de Brabois, CHU Nancy F-54511 Vandœuvre-lès-Nancy (France)

The screening of colo-rectal cancer has become a major issue of healthcare systems in Western countries. Different methods and approaches are currently proposed, including systematic distribution of faecal occult blood tests in the general population (France) or the proposal of a colonoscopy at the age of 50 (USA, Germany). Overall, the compliance to these screening programs remains low. However, in selected areas, the benefit of this CRC screening becomes measurable.
Consequently, any method that could improve the compliance of the screened population would result in a better efficiency of screening programs.

The colonic capsule PillCam Colon (Given Imaging, Yoqneam, Israel) has been developed recently with a technology similar as that of the small bowel capsule that has become a standard for investigation of intestinal diseases. Preliminary studies have shown the accuracy of the colonic capsule to detect colonic polyps as compared to conventional colonoscopy. These preliminary results have since been confirmed by large controlled studies.

The actual question is whether the colonic capsule could be used as a filter for the indications of a colonoscopy, knowing that about 60% of all colonoscopies do not detect any lesion. In this perspective, we designed a study to evaluate the positive (PPV) and negative predictive value (NPV) of the colonic capsule to detect colonic diseases and polyps as compared to colonoscopy and test the assumption that it could accurately discriminate patients deserving a complete colonoscopy in the frame of CRC screening. In 128 patients, we could show that the colonic capsule indicated a colonoscopy in 56% and the colonoscopy results confirmed this indication in 56 (44.4%). The PPV of the colonic capsule was thus 78.9% and the NPV, 85.4%.

At the present time, it can be concluded that the colonic capsule accurately detects colonic polyps and fairly discriminates patients referred for CRC screening who actually have an indication to undergo a complete colonoscopy. However, larger studies in actual screening conditions must be undertaken especially to evaluate the cost-effectiveness of this approach.

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### Anal cancer, a rising problem

**JFWM Bartelsman**  
Academic Medical Centre, Amsterdam (The Netherlands)

Anal cancer is a rare disease, but its incidence is increasing in men and women worldwide. The most important risk factors are human papilloma virus (HPV) infection and immunosuppression.

Anal cancer is preceded by intraepithelial neoplasia (AIN), which is most prevalent in human immunodeficiency virus (HIV)-positive men who have sex with men.

In HIV-positive men, annual anal cancer rates have increased dramatically from 11-49 to 128-144 per 100,000 and the relative risk of anal carcinoma development in HIV-positive men has been reported to be 352 times higher compared with HIV-negative men [1].

High risk individuals may benefit from screening. Probably 80% of anal cancers could be avoided by vaccination against HPV 16/18 [2].

The most appropriate way to diagnose AIN is high resolution anoscopy, followed by biopsies in case of abnormal findings.

The mainstay of treatment of high-grade AIN is ablative treatment with possible side-effects as anal stenosis, incontinence or scarring. Topical 5-fluorouracil treatment can completely clear AIN lesions in a substantial proportion of patients.

Staging of anal cancer requires a CT-scan of the chest, abdomen and pelvis. 50% of patients have disease localized to the anus (5-yr survival: 80%), 29% have regional lymph node involvement (5-yr survival: 61%), 12% have distant metastasis (survival: 30%).

Chemoradiation achieves survival and recurrence rates equivalent to surgery and with preservation of sphincter function.

Radiation, combined with 5-FU and mitomycin is considered the standard of care.

After chemoradiation 30% of patients have persistent or recurrent disease and need abdominal perineal resection [3].

**Références**

Impact of preparation quality on incomplete colonoscopies and on polyp detection rate: Experience of Mongi Slim University Hospital, La Marsa, Tunis (Tunisia)

H Romdhane, S Sabbegh, R Hfaiedh, R Ennaifer, H Ben Nejma, N Belhadj
Gastroenterology Department, Mongi Slim University Hospital, La Marsa, Tunis (Tunisia)

Background: Quality of colic preparation is very important since a bad preparation is a frequent cause of incomplete colonoscopy and because of its impact on polyp detection rate. The aim of our study is to evaluate the impact of preparation quality on polyp’s detection.

Patients and Methods: We conducted a retrospective study during 3 years (from October 31st 2007 until October 31st 2010). Data were collected from colonoscopic reports.

Results: We found 249 colonoscopic reports. The average age of our patients was 54.85 years (extremes: 14-86 years). Colic preparation was judged good, of an intermediate quality and poor in respectively: 34.5%, 47.3% and 18.2% of cases. Colonoscopy was total in 64.2% of cases. We achieved left colon angle in 62.9% of cases and right colon angle in 51.6% of cases. Sex and examinations were not predictive of incomplete colonoscopies. Nevertheless, incomplete colonoscopy was more often encountered in patients >60 years (p<0.05). Colonoscopy was total in 75.6% of cases if the preparation was good (poor tolerance was the main cause of incomplete colonoscopy in these situations, mainly in women <30 years), in 65.2% of cases if the preparation was of an intermediate quality and in 24.4% of cases if the preparation was poor. Thus, a poor colic preparation was a predictive factor of incomplete colonoscopy (p<0.05). The polyp detection rate was 36% if the preparation was good or of an intermediate quality and 11% if preparation was poor (p<0.05).

Conclusion: This study confirmed the importance of an optimal colic preparation for a good and a complete exploration of the colon. This evaluation allows us for identifying some predictive factors for incomplete colonoscopies (poor preparation and advanced age >60 years).

Malignant transformation of anal condyloma

S Issaad, S Nadir, R Alaoui, A Cherkaoui
Hepatology-gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: Malignant degeneration is the most feared complication of anal condyloma whose origin is HPV infection remains the most common sexually transmitted infections.

Objective: To study the epidemiological, clinical, paraclinical and highlight the therapeutic difficulties of this disease.

Patients and methods: 13 cases of anal warts degenerate were collected at the Gastroenterology unit from January 1999 to August 2009.

Results: 8 men and 4 women, mean age of 53.5 years. The risk factors were: smoking chronic in 6 patients and syphilis in 4 patients. Recurrence of scar excision of benign warts was found in 5 patients; the anal swelling, rectal bleeding and alteration of general health are the main clinical signs. The review found in proctology a cauliflower ulcerative budding process in all our patients. All our patients had a negative HIV status. Histological examination found a squamous cell carcinoma in situ in 2 cases and invasive in 11 cases with genital invasion in one patient and bladder prostatic invasion in one patient. Resection with radiotherapy was performed in 7 patients, complete resection alone in 1 patient, Xrays only in 3 patients and the association RTH-CTH was reported in one patient; we lost sight of one patient.

Conclusion: The therapeutic management depends on the degree of tumor invasion. Prevention is the best effective way to reduce the risk of degeneration of anal condyloma and vaccination against HPV could be a means of prevention.
COLORECTAL CANCER

Medical treatment of advanced colorectal cancer: Treatment options

Thomas Seufferlein
Medizin Universitätsklinik und Poliklinik für Innere Medizin I, Halle, Saale (Germany)

Colorectal cancer is one of the most common cancers worldwide. Primary goal of treatment is curaion by complete resection in localized disease. In up to 20% of the cases metastases are present already at diagnosis. Prognosis depends on the stage of the disease, but novel chemotherapies and the development of new targeted therapies have led to a considerable improvement in the therapeutic options and to an increase in overall survival of patients with advanced colorectal cancer up to more than 30 months. Multiple therapeutic options for metastatic CRC to date also allows for the individualization of therapeutic strategies.

In particular, different clinical scenarios allow for a choice of treatment for treatment-naive patients with advanced colorectal cancer. In patients with isolated, resectable liver and/or lung metastases resection can be performed straight away. However, there is increasing evidence that perioperative chemotherapy might improve at least progression free survival of these patients and trials are under way to further examine the best preoperative therapeutic strategy in this group of patients. In patients with non resectable metastases that are limited to the liver and/or lung downsizing and/or downstaging of the metastases is paramount to achieve resectability and therefore potential long term survival of the patients. Here, intensified treatment strategies that achieve the best tumor response rates are required. These treatment strategies comprise triple chemotherapy (e.g. combinations of 5-FU, folinic acid, oxaliplatin and irinotecan as in the FOLFIRINOX protocol), or combination chemotherapy (FOLFOX/FOLFIRI or XELOX/XELIRI) plus antibodies directed against the epidermal growth factor receptor (EGFR) such as cetuximab or panitumumab (only in patients with K-ras wild type tumors) or antibodies against the vascular endothelial growth factor (VEGF) such as bevacizumab. Using these strategies, response rates up to 60% can be achieved. Here, combination treatment should only be performed until resection is possible and not until best response. A second group of patients consists of those with symptomatic tumor disease characterized by high tumor burden and parameters such as weight loss, pain, elevated LDH, leucocytosis and/or elevated CRP. In this case, intensified treatment is also required to stop the rapidly progressing disease and similar therapeutic concepts are used as in the group with non resectable liver metastases. Potential side effects of the treatment have to be taken into account and usually treatment de-escalation is required once disease control has been achieved. A third group of patients are those with metastatic but asymptomatic colorectal cancer and no chance of curative resection of the metastases even when downsizing of the metastases can be achieved. For these patients both disease control and quality of life is paramount. Therefore strategies that confer little side effects but are nevertheless efficient are recommended such as fluoropyrimidines plus bevacizumab or early de-escalation of combination treatment.

In conclusion, advanced colorectal cancer is no longer a disease with a standard treatment but can be dissected – already by simple clinical parameters – into various disease entities that allow for a more personalized treatment. With the advent of novel predictive biomarkers, these personalized strategies will be far more refined in the near future.

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Palliative possibilities for obstructive intestinal malignancy

JFWM Bartelsman
Academic Medical Centre, Amsterdam (The Netherlands)

20% of patients with colorectal cancer present with incurable disease because of metastases or locally advanced cancer. For these patients a palliative resection or fecal diversion and stoma creation are the standard procedures if the patient is fit enough to undergo surgery.

Colonic stenting was introduced twenty years ago to treat malignant colonic obstruction. A systematic review showed an overall rate for relief of obstruction of 84-94%, but also a high rate of complications such as perforation in 4%, stent migration in 10-12% and re-obstruction in 7-10%, causing a cumulative mortality of 1% [1].
A recent study from Minnesota focussed on long-term outcomes and complication factors in a large cohort of 168 patients with colonic obstruction managed by endoscopic self-expandable metal stent placement [2]. Technical and immediate clinical success rates were 96 and 99% but 24.4% had complications. Mean stent patency was 145 days. Intraluminal lesions, bevacizumab therapy and distal colon placement of the stent were associated with higher complication rates. Bevacizumab therapy nearly tripled the risk of perforation.

A multicenter randomized clinical trial of endoscopic stenting versus surgery for stage IV left-sided colorectal cancer in the Netherlands was prematurely closed due to a high number of serious adverse events in the nonsurgical arm [3]. In total six out of nine stented patients had a perforation and had surgical re-intervention and stent-related mortality (3/9) was considerably higher than reported in the literature. This high rate of perforation was specifically seen in patients on chemotherapy.

These findings might support the recommendation that patients with malignant colonic obstruction who are able to undergo surgery and who are candidates for postoperative chemotherapy should be treated by surgical resection or colostomy. Other randomized prospective studies are needed to confirm or reject this recommendation.

References

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**Anti-angiogenic drugs in metastatic colorectal cancer**

**Emmanuel Mitry**

Institut Curie et Université Versailles St-Quentin (France)

Colorectal cancer (CRC) is one of the most common human malignancies with more than 300,000 cases both in the United States and in the European Union each year. Angiogenesis is involved in the development of carcinogenesis, tumour growth and malignant dissemination. The vascular endothelial growth factor (VEGF) plays a key role in this process. Recently, new therapeutic agents targeting molecular events involved in colorectal carcinogenesis have been developed, including bevacizumab, a recombinant humanized monoclonal antibody, which binds to VEGF with a high specificity and prevents its interaction with receptors on endothelial cells.

The benefit of the combination of a 5FU-based chemotherapy and bevacizumab has been demonstrated in the front-line treatment of advanced CRC. A randomized phase III study also reported a clinical efficacy of the association of bevacizumab and FOLFOX4 as second-line in mCRC patients previously treated with a fluoropyrimidine and irinotecan. Other antiangiogenic agents, such as tyrosine kinase inhibitors, have been evaluated in the treatment of advanced CRC with disappointing results.

Antiangiogenic treatments have not proved to be efficient in the adjuvant treatment of colon cancer.

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**SPECIAL LECTURE**

For a Mediterranean cooperation in Health: the cancer example

**JJ Denis, IEM2S President (France)**

International cooperation around cancer

In Mediterranean countries, with the emergence of chronic diseases, the priority is no longer to control the borders trying to stop the propagation of infectious agents or patients’ movements but to establish new collaboration. As a matter of fact, the convergence of lifestyles is directly linked to the convergence of pathological conditions. Therefore, cooperation must now focus on knowledge exchange, research partnership and fundraising to support health care programs.
Cancer is a major cause of death worldwide: 7.4 million deaths in 2004, representing 13% of global mortality. This represent more than the total number of deaths from AIDS, Tuberculosis and Malaria, which yet mobilizes most international funding.

**In the Eastern Mediterranean and North African countries.** cancer is the fourth leading cause of mortality in adult population, coming just after cardiovascular, infectious, parasitic diseases and traumas. Cancer kills over 270,000 people each year and the World Health Organization (WHO) anticipates the largest increase of cancer will concern the Eastern Mediterranean Region (EMR) (492 million people) by 2020.

**In Morocco:** 30,000 new cases of cancer are found annually causing 7.2% of deaths. The only source of epidemiological information currently considered as reliable in Morocco is the Cancer Registry of Greater Casablanca, which represents 10% of the Moroccan population.

**In France:** Cancer was found to be the leading cause of death (before cardiovascular disease) in 1988 in men and in 2002 in women. Between 1968 and 2005, for example, the number of cancer-related deaths raised from 106,000 to 149,000 (41%), which is clearly explained by the increase of population and ageing.

The epidemiology of cancers shows many similarities between North and South, and especially between France and Morocco: breast and cervix cancers are the most frequent in women (recognized priority in the Moroccan Cancer Plan) whereas lung and prostate cancers are the most frequent in men. They represent about 40% of all cancers. Digestive cancers represent less than 10% of cancers in Morocco, whereas in France, the incidence of colorectal cancer mainly, but also of liver is much higher.

In front of these challenges, most countries are now developing plans: In the continuity of the 2003-2007 one, France has started a new cancer plan for the years 2009-2013. In Morocco: a 10-year national plan for prevention and cancer control (2010-2019) (PNPCC) was announced last year. However these plans leave very little place to international cooperation and the challenge now is to imagine how an interaction between these plans could be organized in the Mediterranean Region.

**Which projects for which objectives?**

Historically, cooperation has always existed in the various medical and scientific fields, but this cooperation rarely address all the countries. This is why a “**Mediterranean Cancer Plan**” seems so necessary. However we must be careful it is not based on the “least common denominator” but instead, on a real synergy taking into account all particularities, strengths and weaknesses of the different countries involved.

Before the creation of this Mediterranean Cancer Plan, one necessary step would be the creation of an “**Atlas of Cancer in the Mediterranean Region**”. This atlas would collect all available data concerning the epidemiology and prevalence of the different types of cancers. The analysis of this information would then allow to better determining the health factors associated with cancers (social, environmental, dietary, genetic, geographical, physical, chemical, infectious, behavioral…). Finally this atlas would allow for mapping the health care needs.

Health international priorities still mainly concern infectious diseases. Chronic diseases are only rarely taken into account from the point of view of international funding and cooperation.

A consensually realized atlas and the symbolic dimension of a Mediterranean Cancer Plan are two major aspects of a comprehensive and coherent approach for the actions to initiate. In an open and globalized world, attacks on population health cannot remain confined within borders. Consequences of non-communicable diseases are indirect and have a financial impact as these diseases act as a break on sustainable growth. From this perspective, international cooperation to address health issues is an investment for the future.
Whither virally-induced hepatocellular carcinoma in sub-Saharan Africa?

Michael C. Kew
Department of Medicine, University of Cape Town and Groote Schuur Hospital, Cape Town, and Department of Medicine, University of the Wiwatersrand, Johannesburg (South Africa)

Hepatocellular carcinoma continues to occur commonly in sub-Saharan Africa, in fact, its incidence is increasing. The tumour also carries a particularly serious prognosis in Black Africans, with approximately 93% of the patients dying within the course of one year. Hepatocellular carcinoma is more common in rural than in urban Black Africans. The major cause of the tumour in the sub-continent is chronic hepatitis B virus infection, with chronic hepatitis C virus playing a lesser role in most regions. One exception is Somalia, where hepatitis B and C virus infections are equally common. Chronic hepatitis B virus infection is almost always acquired very early in childhood (before the age of 5 years). A relatively small proportion of the infections are acquired by peri-natal transmission of the virus from highly infectious (e antigen-positive) carrier mothers, the great majority being infected a little later by horizontal transmission of the virus. The major sources of horizontal infection are recently infected, and hence highly infectious young siblings or playmates, with the mother also being an important source.

Is hepatitis virus-induced hepatocellular carcinoma in sub-Saharan Africa preventable? The answer is YES in the long-term but NO in the short term. Eradication of chronic HBV infection, and hence the prevention of the great majority of hepatocellular carcinomas in the sub-continent, as a result of universal immunization of all infants against the virus is an exciting and obtainable goal. A safe and effective vaccine against HBV has been available since the early 1980s and, with one exception, all sub-Saharan African countries have now included this vaccine in their Expanded Program of Immunization. Unfortunately, in a number of sub-Saharan African countries logistic reasons have prevented the full course of immunization being completed, with the result that maximal protection has not been provided. This, together with the known prolonged interval between infection with the virus and the development of HCC, means that it will take between 30 and 50 years for HBV-induced HCC in the sub-continent to be completely prevented. In addition, there is no immediate prospect of a vaccine against the hepatitis C virus becoming available. Steps must therefore be taken to ensure that sub-Saharan patients with HCC receive the benefits of the improved diagnosis and treatment of HCC now available in developed countries. This will require the establishment of well-equipped and staffed centres of excellence in sub-Saharan Africa. These centres should be comparable with those in resource-rich countries. Steps will also have to be taken to ensure that rural patients, in addition to urban patients, have ready and speedy access to these centres.

HCV in the Middle East and the Egyptian program for management of HCV

Gamal Esmat
Hepatology and Tropical Medicine, Cairo University, Cairo (Egypt)

In the Eastern Mediterranean region, the overall prevalence of HCV is 4.6%, second only in Africa for regional infection rates. Egypt has the region highest prevalence rate with 10-20% of the population infected with HCV. Prevalence rates of 2.5 to 4.9% were reported in Kuwait, Sudan and Yemen, Saudi Arabia and Turkey showed 1 to 2.4% rates. There is less than 1% prevalence in Algeria, Tunisia and Iraqi (WHO, 1999).

Egyptian ministry of health had announced the National Program for Treatment of Chronic HCV through 22 centers of treatment distributed all over Egypt. Each center consists of MOH Specialized Center in collaboration with nearby Faculty of Medicine to provide the following services: – Clinical evaluation and follow up of the patients.
– Ultrasonographic abdominal examination.
Liver cancer in Africa: is prevention feasible?

M Benazzouz

Medecine C unit, Ibn Sina hospital, Rabat (Morocco)

Hepatocellular carcinoma (HCC) is the most frequent form of primary liver cancer and is a major cause of death in sub-Saharan Africa and eastern Asia [1]. The main etiologic factor in these regions is chronic infection with hepatitis B virus (HBV). Other factors that contribute to the etiology of primary liver cancer include hepatitis C virus (HCV) and dietary exposure to aflatoxins. For HCC prevention, 3 measures are adopted:

– Primary prevention: measures designed to inhibit tumor occurrence;
– Secondary prevention: measures designed to inhibit tumor progression to more aggressive stage;
– Tertiary prevention: measures designed to minimize the impact of established tumors on life expectancy and quality of life.

A study in Taiwan following the introduction of nationwide hepatitis B immunization has shown a sharp decrease of childhood primary liver cancer among children vaccinated with hepatitis B [2,3]. The best example to answer if liver cancer prevention is feasible in Africa comes from Gambia. The Gambia Hepatitis Intervention Study (GHIS) was established in 1986 to evaluate the protective effectiveness of infant hepatitis B immunization in the prevention of chronic liver disease, particularly, HCC and cirrhosis later in adult life [4]. According to this study the hepatitis B vaccine coverage was 15% more than originally assumed and the HBV-attributable risk of HCC at age < 50 was 70% to 80%, lower than initially assumed. In children with an efficacy of HBV vaccine between 80 to 95% only 7 HCC were reported but in the unvaccinated group 49 HCC were reported. The final outcome of GHIS should be measurable between 2017 and 2020. The model developed in The Gambia shows that population-based cancer registration can work as an integral part of routine medical and hospital practice to assess the long-term effect of countrywide hepatitis B vaccination to prevent liver cancer in a low-resource setting. Data from Taiwan and Preliminary data from Gambia indicate a protective effect of universal HBV vaccination on the development of HCC. Vaccination against HBV should be a health priority in Africa.

Other actions for HCC prevention and early diagnosis in Africa:

– Prevention of HBV and HCV transmission. Preventing infection with these two hepatitis viruses is one key strategy to reduce the burden of liver cancer;
– Treatment of chronic viral hepatitis B/C when indicated [5];
– Reduction of environmental carcinogens (aflatoxin);
– HCC surveillance is a measure that can reduce mortality from HCC in subgroups of patients with cirrhosis, but is best conducted within a well-organized screening program.

References

Prevention of hepatocellular carcinoma

Cihan Yurdaydin
Hepatology Institute, University of Ankara (Turkey)

Hepatocellular cancer (HCC) represents a global health problem since it ranks as the fifth most common cancer and the third most common cause of cancer death worldwide. Although curative treatment is possible at early stages of HCC, most patients are diagnosed at an advanced stage of the disease when prognosis is poor. Further, since the bulk of the patients are in developing countries – half of patients dying from hepatocellular cancer are from China and most of the rest from Africa – curative treatment even in those diagnosed early may not be possible. Thus, prevention is of utmost importance in HCC.

The major causes of HCC are chronic hepatitis B virus (HBV) and chronic hepatitis C virus (HCV) infection, alcoholic liver disease, aflatoxin exposure, cirrhosis irrespective of etiology and non-alcoholic steatohepatitis. As pointed out, most of patients with HCC are from China and Africa. In these areas the main etiology is HBV which makes HBV the most prevalent cause of HCC worldwide. The cheapest and most effective prevention of HBV-related HCC is universal infant vaccination. In Taiwan where infant HBV vaccination has started in the early 80s childhood and infant HBV prevalence has decreased from 10% to 1.4% within 10 years which was associated with a significant decline of childhood HCC cases. In patients with chronic hepatitis B, treatment favorably affects the natural history of the disease. The risk of developing HCC appears to be greatest in patients with high HBV DNA levels. It follows that treatment tailored to decrease HBV DNA levels should decrease the risk of HCC development. This appears to be indeed the case as has been best shown with lamivudine in patients with advanced liver disease. It is reasonable to project that with more potent antivirals with a high genetic barrier to resistance the effect of treatment on prevention of HCC will further improve. Aflatoxin exposure may act as a co-factor for HBV-induced hepatocarcinogenesis. Aflatoxin formation should be prevented by proper care of crops and food storage. Similarly, patients with chronic viral hepatitis in general should avoid alcohol drinking. Prevention of HCV-induced HCC has gained momentum through commencement of testing of blood products for anti-HCV which led to a drastic decline of post-transfusion HCV infection. Further, adherence to universal precautions to prevent dissemination of infection is important. In case of established infection, treatment with interferon or pegylated interferon and ribavirin decreases HCC especially in patients with sustained viral response including patients with cirrhosis. Maintenance interferon therapy in non-responders to standard treatment however, does not appear to show any risk reduction on occurrence of HCC. With regard to alcoholic liver disease it can be said that preventing alcoholic liver cirrhosis by curbing excessive alcohol intake will prevent alcoholic liver disease-induced HCC but discontinuation alcohol once cirrhosis is established may not reverse the risk for HCC.

HCC can also be prevented in patients with the less common etiologies of chronic liver disease. For example, early detection of hemochromatosis by genetic screening for family members and serum studies of iron stores can prevent the development of HCC by correction of iron overload by venesection. Further, preventing obesity and its metabolic complications such as insulin resistance, metabolic syndrome, type 2 diabetes mellitus, could potentially have an impact on HCC occurrence although evidence for this is currently lacking. It needs to be added that corrections of metabolic abnormalities may also have an impact on HCC development on other causes of cirrhosis such as HCV-induced liver disease. Cigarette smoking is a co-carcinogen and patients should be discouraged from smoking. Although cirrhosis of the liver can be regarded as a premalignant condition independent of its etiology, HCC in patients with Wilson disease, autoimmune hepatitis, α-1 antitrypsin deficiency and primary biliary cirrhosis is in general rarely encountered.

Finally, chemoprevention of HCC by compounds acting on different steps of carcinogenesis such as carcinogen activation, carcinogen metabolism, intracellular signaling pathways of malignant cell transformation, angiogenesis, apoptosis, pathways linked to inflammation such as NFκB, COX-2 have been tested mostly in animal models of HCC but less in the human condition. Among the numerous compounds tested are among others caffeine, silymarin, silibinin, retinoic acid derivatives, COX-2 inhibitors, tamoxifen and S-adenosylmethionine. However, none of these compounds have been rigorously tested for the prevention of HCC in humans. Observational studies reporting on the beneficial effects of drinking coffee need to be prospectively studied.
Liver and chemotherapy

Paul Calès
Liver unit, university hospital, Angers (France)

- Chemotherapeutic agents are more often implicated in causing liver damage than most other drug classes.
- These reactions are considered dose related.
- The dose of many chemotherapeutic agents is limited by the toxic effects.
- Many drug reactions in patients who have cancer appear quickly because there is direct toxicity being demonstrated.
- Patients undergoing chemotherapy need to have baseline liver function tests and, when indicated, liver imaging, such as CT scan or ultrasound.
- This approach helps exclude the presence of cirrhosis or metastases in most instances and can be used to estimate in a general way the best drug and dose for each patient.
- One particular group at high risk is patients who have underlying hepatitis B and C. HBsAg screening is recommended before chemotherapy.
- It is important for the clinician to exclude the many potential causes of abnormal liver function in the patient who has cancer before trying to link observed liver abnormalities to the different drugs used to treat malignancy.
- Serial liver function tests should also be performed.
- The role of non invasive tests for fibrosis and steatosis has to be clarified.
- There are no clear guidelines on the use of anticancer drugs in patients who have liver impairment.
- Liver impairment may not predispose a patient to increased toxicity but is likely to affect the degree of injury in certain settings.
- Therapeutic monitoring may help prevent overdose and subsequent risk for potentially life-threatening toxicity.
- This presentation includes the description of main hepatotoxic drugs.

New diagnostic and therapeutic tools in HCC: histological diagnostic and prognostic markers

Valérie Paradis
Pathology Dpt, Beaujon Hospital & Inserm U7773, Paris (France)

In most of cases, development of hepatocellular carcinoma (HCC) follows a multistep process of carcinogenesis, occurring on damaged liver with cirrhosis allowing development of dysplastic nodules that may progress to HCC. Although histological diagnosis of HCC relies on a set of elementary cytological and architectural features, it may be difficult to achieve in some cases, especially for small “early” tumours. In that context and for prognostic data, molecular markers may be helpful.

Diagnostic markers of HCC: HCC versus dysplastic nodules

Although recent consensus clearly described classification of dysplastic nodules and HCC, confident pathological diagnosis of HCC, especially for small nodules, less than 2 cm in diameter, may be hazardous. It is mostly the case for the differential diagnosis between early HCC and high grade dysplastic nodule. Several studies have now shown the usefulness of surrogate tissue molecular markers. Indeed, several gene expression studies identified subsets of mRNA specifically deregulated between HCC and premalignant cirrhotic nodules [1-5]. Whereas these studies significantly provide further insights in the pathogenesis and diagnosis of liver nodules in cirrhosis, their contribution in a routine diagnostic practice, especially on small tissue specimens such as biopsy, has not been demonstrated so far. Nevertheless, some of them have been further evaluated at the protein level and represent interesting markers able to be used by immunohistochemistry on archival samples. Among them, Glypican-3 (GPC-3), an oncofetal protein, has been studied in several independent series, and showed a very good specificity and sensitivity for the diagnosis of HCC, even of small size.
[6-8]. It has been more recently proposed that the combination of 3 markers, including GPC-3, HSP70 and Glutamine synthetase was very useful in the differential diagnosis of early HCC from high grade dysplastic cirrhotic nodules [9]. In addition to these hepatocellular markers, CK7 which normally stains biliary cells and ductular reaction, may be helpful for identifying stromal invasion which is a distinctive marker between dysplastic and malignant nodules [10].

**Prognostic markers of HCC**

Prognosis of HCC is highly dependent to its size, degree of differentiation and its ability to invade vascular structures. In addition to these factors, it has been shown that HCC expressing progenitor cell markers, including CK19, display a worse prognosis [11]. In the next future, assess such markers in biopsy samples may certainly be useful to adapt the therapeutic strategy.

**In conclusion**, there is still some challenge in the pathological diagnosis and prognosis of HCC, especially in small tumors. In that context, helpful molecular markers are available even though their performance needs to be validated on biopsy specimen.

**References**


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**Validated medical options and perspectives for HCC treatment**

**Mohamed Bouattour, Eric Raymond, Sandrine Faivre**

Service Inter-Hospitalier de Cancérologie Bichat-Beaujon, Hôpital Beaujon ; Assistance Publique – Hôpitaux de Paris. Inserm U728-Université Paris 7, Clichy (France)

HCC is a highly vascularized tumor in which neoangiogenesis plays a crucial role for its development, survival and progression. Several aberrant signaling pathways are involved in the hepatocarcinogenesis, offering the opportunity to investigate several drugs blocking different molecular and vascular disorders. Sorafenib - an antiangiogenic and antiproliferative compound- was the first and remains the only approved agent in advanced HCC since it showed significant overall survival improvement across two large clinical trials (+ 2.8 months; HR: 0.69 for European patients and + 2.3 months; HR: 0.68 for Asian patients respectively). Routine clinical use of this compound raised several issues. First, optimizing patient selection leads to higher efficacy and tolerability. Indeed, studies exploring sorafenib in Child-Pugh class B/C HCC patients showed noticeably minor clinical benefit and lower safety; therefore the use of sorafenib should be restricted to Child-Pugh class A patients. In addition, appropriate management of sorafenib
induced toxicities allows maintaining an optimal dose-intensity, leading to clinical benefit and favorable quality of life. The majority of side effects are well-known and easily manageable, thus patients should be informed and educated to improve their compliance. Finally, unlike conventional cytotoxics, evaluation by RECIST criteria appears insufficient in many cases since sorafenib induces objective response in less than 5% of patients. For this reason, in addition to AFP plasma level, evaluation may integrate new radiological parameters including intratumour density.

Several other targeted molecular agents are currently under investigation in HCC and current researches aim to integrate antiangiogenic therapies in combination with chemotherapy or as adjuvant/neoadjuvant approaches. Moreover, some studies seek for predictive biomarkers of response. Well-designed phase II and III clinical studies along with translational research will undeniably play a major role for future optimization of these promising therapies in HCC patients.

Transplantation Hépatique pour carcinome hépatocellulaire

Eric Vibert, Denis Castaing

Centre Hépato-biliaire, INSERM U785, Hôpital Paul Brousse, Villejuif (France)

Le carcinome hépatocellulaire est la 3ème cause de mortalité par cancer dans le monde. Il se développe dans plus de 90 % des cas sur une hépatopathie chronique, souvent au stade de cirrhose. Avec l’amélioration de la prise en charge des cirrhoses qui permet un allongement de la durée de vie de ces malades et un meilleur dépistage du cancer, le nombre de patients avec un CHC est en augmentation. La transplantation hépatique (TH) est le meilleur traitement du CHC sur cirrhose car l’hépatectomie totale est à la fois un traitement oncologique radical et un traitement de la cause du cancer, la cirrhose. Si le cancer est strictement confiné au foie, la TH est le traitement qui, pour un groupe de patients, est celui qui apportera la meilleure survie. Dans le contexte du CHC, la sélection d’un malade candidat à la TH doit donc permettre d’éliminer avec le plus de probabilité celui qui présente une maladie tumorale extra-hépatique macro- ou microscopique qui serait responsable d’une récidive précoce et sévère sous immunosupresseurs. Les critères dits «de Milan» basés sur le nombre et la taille du ou des nodules de CHC sur les examens morphologiques à la date de l’inscription (1 nodule de 5 cm max ou 2 à 3 nodules de 3 cm max en l’absence de thrombose portale tumorale) en vue d’une TH sont les critères les plus fiables pour effectuer cette sélection. Avec ces critères sur la pièce d’hépatectomie totale, la survie globale est autour de 60 % à 10 ans. Du fait de la pénurie de greffon, le délai d’attente entre l’inscription en liste de TH et la réalisation de la TH est souvent supérieur à 6 mois. Pendant cette période d’attente, le CHC peut évoluer et sortir des critères de Milan avec, comme conséquences, une moins bonne survie et parfois une sortie de liste avant TH devant la découverte d’une thrombose portale tumorale ou d’une maladie extra-hépatique macroscopique. En France, ce taux de sortie de liste pour évolution tumorale varie entre 8 et 10 %. Pour diminuer cette période d’attente, des alternatives à la TH classiques (transplantation d’un foie entier prélevé sur un donneur en mort cérébrale à cœur battant) se sont développées. Il s’agit principalement de la TH d’un hémi-foie droit ou gauche (Split), de la TH de foie entier prélevé sur un donneur en mort cérébrale à cœur arrêté et de la TH à partir d’hémi-foie prélevé chez un donneur vivant. Si ces techniques augmentent le pool de greffons, elles sont aussi associées à une morbi-mortalité plus élevée chez le receveur que la TH à donneur cadavérique et doivent être réservées à des malades ayant une bonne fonction hépatique.

Afin de tenter d’obtenir une équité dans le groupe des patients candidats à la TH (avec ou sans CHC), la pénurie de greffon a imposé la mise en place de règles d’attributions et de scores (Score UNOS, Score ABM) dans la plupart des pays du monde. Ces règles d’attribution ont pour but de distribuer les greffons hépatiques à des patients qui ont un risque élevé de décès à court terme en absence de TH par l’absence d’alternative thérapeutique et du fait d’une fonction hépatique altérée évaluée sur le score de MELD. Initialement déphasés par ces règles, les patients avec un CHC et une fonction hépatique conservée bénéficient maintenant de points supplémentaires qui doivent théoriquement leur permettre d’accéder à la TH entre 6 et 12 mois après l’inscription. Afin d’éviter une sortie de liste par progression du cancer pendant cette période en l’absence de TH à donneurs vivants, des traitements d’attente sont proposés. Ces traitements d’attente sont la radiofréquence, la chimioembolisation, la radioembolisation et la résection chirurgicale. L’avenir de la prise en charge du CHC passera probablement par un traitement «à la carte» où l’analyse du foie tumoral et surtout non tumoral sur des pièces de résections et/ou des biopsies affinera les indications de la TH.
All against Hepatitis to prevent Hepatocellular Carcinoma
An attempt to formulate an updated “Declaration of Rabat”

From Chronic hepatitis to HCC

Rolf Hultcrantz
Department of Gastroenterology and Hepatology, Karolinska University Hospital, Stockholm (Sweden)

Chronic hepatitis is mainly caused by hepatitis B (HBV) and hepatitis C (HCV) viruses. These viruses worldwide affect approximately 400-500 million persons. With almost 600,000 cases each year hepatocellular carcinoma is the fifth most common cancer worldwide and the third most common cause of death from cancers in the world, since the prognosis is bad in most cases.

The mechanisms for development of HCC in a patient with chronic hepatitis are different in patients with HCV and HBV. Whereas HBV is a DNA virus that may influence the hepatocyte directly into transforming into a malignant cell without cirrhosis, it is very unusual that patients with HCV develop HCC before they have cirrhosis.

In order to prohibit that HCC occurs it is obvious that these infections have to be a major target for intervention. The infections are different and the treatment methods are different. Whereas HBV can be prohibited by vaccination or when established, often needs long period of drugs, which sometimes are expensive, patients with HCV are treated during six to twelve months with the goal of eradication. New treatment options are constantly developed, but a major obstacle for many patients in parts of the world is that the cost of treatment makes it impossible to afford.

Recent data for patient with HCV and cirrhosis strongly indicate that if the virus was eradicated it would be possible to decrease the risk for HCC.

In patients with known HBV and HCV with cirrhosis, surveillance programs should be used in order to find HCC early, in order to improve treatment results.

Thus HCC is a major threat to health in many parts of the world. These persons can be identified and often treated; however the cost of both diagnostic procedure and treatment is a problem in some of these areas, which needs to be dealt with in order to decrease the risk for HCC in the world.
2. Hepatitis B and C viruses are the major causes of severe illness and death related to viral hepatitis. About 2000 million people have been infected with hepatitis B virus worldwide, of whom more than 350 million are chronically infected, and between 500,000 and 700,000 people die annually from hepatitis B virus infection. Some 130-170 million people are chronically infected with hepatitis C virus. An estimated 57% of cases of liver cirrhosis and 78% of primary liver cancer result from hepatitis B or C virus infection.

3. Hepatitis B virus infection early in life is associated with the highest risk of chronic infection. People with chronic infection risk progression to cirrhosis and primary liver cancer. About 90% of infants infected around the time of birth, 30% of children infected in early childhood and 6% of those infected after five years of age will develop chronic hepatitis B virus infection. The likelihood of progression to chronic infection is the same whether infection is symptomatic or asymptomatic. People with chronic hepatitis B virus infection have a 15% to 25% risk of dying prematurely from hepatitis B virus-related cirrhosis and liver cancer. People with chronic hepatitis C virus infection are also at High risk for developing cirrhosis and liver cancer. Both superinfection by and coinfecion with, hepatitis D virus in hepatitis B virus-infected patients result in worse outcomes than infection with hepatitis B virus alone; this includes a higher rate of liver failure in acute infections and a greater likelihood of developing liver cancer in chronic infections.

4. Exposure to blood through injections with nonsterile equipment or transfusion of infected blood products is a common and preventable cause of hepatitis B and C virus infections. Unsafe injection practices are estimated to be responsible for 21 million new hepatitis B virus infections and two million new hepatitis C virus infections a year. A significant proportion of the blood supply is either not screened at all for hepatitis B or C virus or not screened properly. The probability of transmission of hepatitis B and C viruses through transfusion of unsafe blood can be as high as about 70% and 92%, respectively, depending on the volume transfused and viral load. Injecting drug use represents the highest risk for hepatitis C virus infection, with prevalence rates in people reporting this behaviour ranging between 30% and 60%.

5. It is estimated that about 1.4 million new hepatitis A virus infections occur globally each year. Infection is usually by the fecal-oral route either through person-to-person contact or ingestion of contaminated food or water. Paradoxically, as water and sanitation systems improve in developing countries, infections occur later in life, when the risk for severe disease from hepatitis A is greatest. This shifting epidemiology is responsible for increased numbers of cases in some countries and the emergence of community-wide outbreaks of hepatitis A.

6. Hepatitis E virus infection occurs sporadically and in epidemics, causing significant morbidity and death, especially in pregnant women. It is estimated that one third of the world’s population has been infected with hepatitis E virus. However, the true burden of hepatitis E is unknown.

7. Foodborne transmission of both hepatitis A and E viruses is common; indeed, hepatitis A virus is among the viruses most frequently involved in foodborne infections. Foodborne contamination may be the result of infected food handlers unknowingly contaminating food. Hepatitis A and E viruses persist in the environment and are able to resist food-production processes routinely used to inactivate and/or control bacterial pathogens.

8. Hepatitis B virus/HIV and hepatitis C virus/HIV coinfections are an increasing problem in countries with concentrated HIV epidemics and among injecting drug users. For those coinfected persons who are being treated with antiviral medicines, underlying viral hepatitis is becoming a major cause of death.

**Previous health assembly action and secretariat activities**

9. The Health Assembly has considered specific aspects of hepatitis prevention in past resolutions. First, in 1992, in resolution WHA45.17 on Immunization and vaccine quality it urged Member States to integrate hepatitis B vaccine into national immunization programmes in countries where it is feasible. The Secretariat acted on this resolution by recommending that all countries integrate hepatitis B vaccine into national immunization programmes by 1997. Support from the GAVI Alliance for the introduction of hepatitis B vaccine has resulted in great increases in vaccination coverage in the past decade. As of 2007, more than 88% of Member States have introduced hepatitis B vaccine, overall coverage with three doses of vaccine was 65%, and globally 27% of newborn infants received the birth dose of hepatitis B vaccine. Secondly, in 2005, in resolution WHA58.22 on Cancer prevention and control the Health Assembly called for including reduction in hepatitis B virus infection among the outcome objectives of national cancer control programmes. At the time of writing, implementation of this resolution and its monitoring are still in progress.

Thirdly, as part of the Global plan of action on workers’ health 2008-2017, endorsed by the Health Assembly in 2007, the Secretariat’s activities would include working with Member States for immunization of health-care workers against hepatitis B. Little progress has been made in the short time since the resolution endorsing the plan was adopted. In addition, the Health Assembly has considered a number of hepatitis prevention issues relating to immunization, safe blood supply, food safety and safe injections.

10. In 1998 the WHO-cosponsored Conference Regarding Disease Elimination and Eradication as Public Health Strategies (Atlanta, Georgia, United States of America, 23-25 February 1998) concluded that hepatitis B is “a primary candidate for elimination or eradication”. In 1999, WHO joined UNICEF and UNFPA to recommend the exclusive use of auto-disable syringes for all immunization injections by the year 2003. Much progress has been made with
the support of the GAVI Alliance for the procurement of non-reusable syringes for immunization. WHO has issued position papers for hepatitis B vaccine (2004) and hepatitis A vaccine (2000). In 2005, the Western Pacific Region set a goal of reducing chronic hepatitis B virus infection rates to less than 2% among five-year-old children by 2012. In 2008, WHO together with FAO, convened an expert meeting on viruses in foods to provide scientific advice in support of risk-management activities. Recently, the European Region has developed clinical protocols for the management of hepatitis B virus/HIV coinfection, hepatitis C virus/HIV coinfection, and prevention of hepatitis A, B and C virus infection in people living with HIV. In November 2008, WHO’s Strategic Advisory Group of Experts on immunization recommended that “all regions and associated countries develop goals for hepatitis B control appropriate to their epidemiologic situations.” The Regional Committee for the Eastern Mediterranean will consider the issue of hepatitis prevention and control broadly at its fifty-sixth session later in 2009. Several countries have established national goals for the elimination of transmission of hepatitis B virus.

Opportunities for prevention and control

11. Coordinating programmes for the prevention and control of hepatitis with other related programmes will contribute to the strengthening of health systems in all countries. To date, prevention and control efforts have been successful but fragmented. WHO does not have a comprehensive strategy for viral hepatitis. Thus, the time is right to create new opportunities for prevention, including establishing goals and strategies for disease control, increasing education and promoting screening and treatment of the 500 million people or so already infected with hepatitis B and C viruses. The impact of these efforts on mortality and morbidity will be significant because of the tremendous burden of disease. WHO is in a position to provide coordinated, global leadership and support to preventing and controlling viral hepatitis.

12. Progress has been made in preventing hepatitis B virus infection through immunization of infants. Despite this, coverage with hepatitis B vaccine has not yet reached the goal set by the Global Immunization Vision and Strategy 2006-2015 of 90% national vaccination coverage by 2010 and lags behind global coverage levels for vaccination against diphtheria, tetanus and pertussis. Vaccination of infants at birth, a safe and effective means of preventing perinatal infections that are associated with the worst health outcomes, remains low and is an important element in strengthening health systems as part of efforts to provide services to mother and child around the time of pregnancy. Health-care workers are still not being vaccinated against hepatitis B in most developing countries and vaccination coverage levels are not monitored. Elimination of hepatitis B virus transmission is feasible for future generations, however; vaccines are too late to protect those 350 million who already have chronic hepatitis B virus infections.

13. Many new and effective treatments that can significantly delay progression of liver disease, prevent the onset of liver cancer, and reduce deaths are available for the more than 500 million people living with hepatitis B and C virus infection. The challenge remains to ensure that these people have timely access to testing, care and effective treatments, especially in resource-limited settings.

14. Demand for hepatitis A vaccine is increasing in large parts of the world that are experiencing an increase in symptomatic cases and more frequent epidemics because of changing epidemiology. Candidate vaccines against hepatitis C and E virus infections should be further developed.

15. Because unsafe health-care practices remain common in many parts of the world, all countries need to make concerted efforts to implement strategies to prevent hepatitis in health-care settings based on safe blood supply and safe injections. Safe injections cause no harm to the recipient, do not expose the provider to any avoidable risk and do not result in any dangerous waste. The primary means of preventing transmission of hepatitis viruses in blood donations is the collection of blood from voluntary, unpaid blood donors who are at low risk of infection. In 2006, only 54 countries reported that they had achieved 100% voluntary blood donation. The second means of prevention in blood product transmission is quality-assured screening of all donated blood for hepatitis B and C virus markers. As of 2006, 55 countries reported not screening all donated blood for hepatitis B virus and 85 countries reported not screening all donated blood for hepatitis C virus. The third strategy is the rational use of blood in order to minimize unnecessary transfusions. Limited data are available on blood utilization, but studies suggest that blood transfusion is widely over-used in both developed and developing countries. Safe injection devices that are not reusable and have features to prevent needlestick injuries need to be used universally, and the training of all health-care providers on best injection practices, including proper sharps waste management, should be strengthened.

16. WHO is in a position to provide coordinated global support and leadership in the development of a comprehensive approach to prevention and control of viral hepatitis with priorities that apply across the health system and include the following:

- Protect all infants from infection with hepatitis B virus through full immunization, beginning as early in life as possible and linked with maternal and child health services.
- Increase coverage of hepatitis B vaccination among health-care workers in order to prevent transmission of hepatitis B virus in the workplace and ensure access to post-exposure prophylaxis for blood-borne pathogens.
• Ensure safe blood supplies by recruiting only voluntary, unpaid blood donors; introducing effective blood donor selection and screening of all donated blood for markers of hepatitis B and C virus infection with highly sensitive and specific assays and following basic standardized procedures; and training clinicians and nurses in safe clinical transfusion practices.

• Ensure that all injections are safe through sustainable procurement of sufficient quantities of appropriate syringes, training on safe injection practices and ensuring that sharps waste is properly managed.

• Improve food safety by preparing and introducing international guidelines for the management of viruses and toxins in foods.

• Integrate interventions for the prevention, treatment and care of hepatitis B and C virus infections into services for injecting drug users, including access to sterile needles and syringes, hepatitis B vaccination and antiviral treatment.

• Guide implementation of hepatitis A vaccination to prevent the emergence of hepatitis A in developing countries.

• Support the new preventive strategies including development of vaccines for other causes of viral hepatitis (especially hepatitis C and E).

• Expand care and treatment services for people chronically infected with hepatitis viruses.

• Increase awareness among communities and health-care workers of the opportunities to prevent viral hepatitis.

• Improve technologies for vaccination, screening and health care in order to prevent chronic liver disease and liver cancer.

• Ensure that priority is given to prevention and care of viral hepatitis in moves towards achieving health equity and that the necessary resources are identified.

• Engage multiple programmes in comprehensive approaches to prevent infection and manage disease, and in particular create links with HIV diagnostic and treatment services and with national cancer control programmes. These services and programmes can provide good entry points for both infected and most-at-risk people, and coordination can promote synergies for prevention, therapy and laboratory work.

Action by the health assembly

17. The Health Assembly is invited to take note of the report and provide further strategic guidance.

2. Resolutions WHA43.33 on World Summit on Children: follow-up action, WHA53.12 on Global Alliance for Vaccines and Immunization, and WHA61.15 on Global immunization strategy.
4. Resolutions WHA53.15 on Food safety, WHA56.23 on Joint FAO/WHO evaluation of the work of the Codex Alimentarius Commission, and WHA58.32 on Infant and young child nutrition.
5. Resolution WHA55.18 on Quality of care: patient safety.

DECLARATION OF RABAT

Africa Against Viral Hepatitis and Hepatocellular Carcinoma

Preamble

Hepatocellular carcinoma (HCC, also known as primary liver cancer) is the fifth most common cancer worldwide and the third most common cause of death from cancer. Unlike many other cancers, the incidence and death rate due to HCC are rising, primarily due to the continued prevalence of hepatitis B and C virus infection. The distribution of these cases is far from uniform with >80% of HCC cases occurring in sub-Saharan Africa, Eastern Asia, where China accounts for more than 50% of the world’s cases, and the eastern Mediterranean countries. In these areas, rates of chronic hepatitis B infection range from 8% to >20%. Over 60% of their populations will be infected during their lifetimes, and 45% of the world’s population lives in these geographic areas. Infection with the Hepatitis B virus increases the risk of developing HCC 100-fold and is secondary only to tobacco as a known carcinogen. In contrast, in parts of Northern Africa, infection with the hepatitis C virus is responsible for up to 75-100% of HCC cases. Additional risk factors for
HCC include exposure to the environmental carcinogen aflatoxin B1 and dietary iron overload, a problem unique to Africa. Frequent co-infection with the HIV virus also increases the rate of progression to cirrhosis and HCC. The viruses of hepatitis B and C are carried in the blood and bodily fluids. In countries with high rates of endemicity, e.g. sub-Saharan Africa, transmission, particularly of hepatitis B virus, occurs primarily during the first five years of life, due to maternal/social contact with cuts, skin sores, scrapes, bites and scratches (horizontal transmission). The virus can also be passed from infected mother to child at the time of birth, when blood exposure always occurs (perinatal transmission). This infection during early childhood leads to chronic infection in up to 95% of those exposed. Acute hepatitis is uncommon in infants and most infections are asymptomatic, increasing the chances for inadvertent transmission. Those acquiring infection later in life usually are infected through sexual intercourse, unsafe and unnecessary injection practices or needle stick with non sterilized needles or syringes, tattooing and scarification practices.

**A safe and effective vaccine to prevent infection with hepatitis B has been available since 1982.**

New hepatitis B infections could eventually be eliminated with the institution of universal vaccination. As a critical additional benefit, it would also eliminate the major cause of HCC. Hepatitis B vaccine is the first true anti-cancer vaccine and it has already been around for 25 years. Success of hepatitis B vaccine programs is well-documented in highly endemic areas e.g. Taiwan and Gambia where the prevalence of chronic hepatitis B infection in children was reduced from 10% in both countries to 1.1% and 0.6% respectively after introduction of routine immunization of infants. By the end of 2006, 164 of 192 World Health Organization Member States had adopted routine infant or childhood vaccination against hepatitis B.

Beginning in the year 2000, the Global Alliance for Vaccines and Immunization (GAVI) and the Vaccine Fund provided five years of funding for new and underused vaccines including hepatitis B, to the 72 poorest countries. Building on the success of their Phase I program, the GAVI Alliance extended availability of its resources to the 72 poorest countries in Phase II (2006-2015). Additional funds have become available through the International Financing Facility for Immunization. However, as of 2006, 16 of 52 African countries still had no hepatitis B vaccine program and 6 programs had been in existence for 3 or fewer years. Worldwide, as of 2007, only 60% of countries were providing the full 3 dose immunization schedule and this fell to 49% in the African region. In addition, for those countries being assisted by the GAVI Alliance, the recipient countries must gradually co-finance their immunization programs in order to be self-financing at the end of the grant period and avoid the problems of rebound infections due to lapsed vaccination programs, e.g. the reintroduction of the wild polio virus that occurred when the polio vaccine program was discontinued in northern Nigeria.

The signatories of this declaration call on all African nations to recognize viral hepatitis B and C and hepatocellular carcinoma as major health problems for their citizens and to develop an action plan to rid the continent of these preventable diseases. We urge the leaders and health authorities of these countries to provide these diseases equal priority to the currently designated three major infectious diseases of HIV, malaria and drug resistant tuberculosis.

**Essentials actions to be taken**

The following list of fundamental areas identifies the required elements of a complete action plan. The recommendations are listed with sincere recognition that current resources vary between countries and may be quite limited in many. Therefore, they are grouped by priority, with the most critical and least expensive, and thus achievable quickly, given first priority.

**I. Prevention**

A. Awareness and Education
   - African leadership: African nations should band together to develop a comprehensive strategy to prevent infection with hepatitis B and C and treat them expeditiously.
   - The aid of the World Health Organization, the World Gastroenterology Organization/OMGE, the African Association for the Study of Liver Diseases and the International Association for the Study of Liver Diseases, as well as national Gastroenterology Societies should be enlisted in educating the population, health care providers, government officials and other stakeholders about this major health issue.
   - Advocacy groups should work with government officials to raise awareness and understanding of viral hepatitis in order to provide a clear and consistent message wherever individuals access the health care system.
   - Community leaders should be engaged to encourage cooperation with screening and utilization of appropriate prevention and treatment programs.

B. Hepatitis B immunization
   - Hepatitis B immunization should be incorporated as part of each national immunization program. We would recommend extending the WHO recommendations to provide the first dose as close to birth as possible.
When this is not possible or impractical, the full 3 dose series (HepB3) should be incorporated into the standard immunization regimen.

- Children and adolescents not previously vaccinated, all health care workers, and adults at risk of blood or bodily fluid exposure should receive the full course of immunization.

C. Injection Safety
- Governments should enact policies to ensure that safe, sterile, and appropriate use of injections is achieved and that all blood products for human transfusion are fully screened for hepatitis B, hepatitis C and HIV viruses.

D. Reduction of Exposure to Aflatoxin
- Programs should be developed and implemented to reduce exposure to dietary aflatoxin, such as the successful intervention to reduce exposure after harvest in rural Guinea. Additional research into a variety of approaches, including development of resistant genetic variants of groundnuts, and education in their application in rural areas of subsistence farming are essential.

2. Surveillance
Africa-wide surveillance
- A priority should be placed on allocating adequate funds to determine the burden of illness posed by hepatitis B, C and HCC. A program of surveillance to determine the true incidence and prevalence of hepatitis B and C infections and HCC is the first necessary step to determine the full burden and consequences of these diseases.

3. Screening
A. Screening for hepatitis B and C should be made available in all health and community settings, in particular in high risk groups.
B. Screening for HCC
- Early detection of HCC, in particular a combination of the alpha-feto protein blood test and an ultrasound liver exam every six months in patients with cirrhosis.

4. Detection and Treatment
A. Healthcare professionals should be trained in Hepatitis B and C, and HCC prevention and control. Innovative approaches using healthcare extenders may be required in regions which have little or no organized healthcare.
B. Treatment
- Effective treatments are currently available to cure a significant proportion of hepatitis C patients, control hepatitis B virus infection, and even cure some patients with early HCC. Efforts must be made to seek out funds to provide such treatments. While universal hepatitis B vaccination will eventually eliminate the vast majority of hepatitis B infections and subsequent development of HCC, it will have no effect on the 350 million chronic carriers worldwide who will remain at risk of death from complications of cirrhosis or HCC unless their disease is treated.
- Worldwide, additional funding for basic and clinical research and treatment implementation should be sought.

5. Resources
- Additional resources should be sought to overcome financial barriers to prevention and care.

Conclusion
This document has laid out a series of recommendations which should be taken forward in order to ensure that the burden imposed on the African continent by infection with hepatitis B and hepatitis C and the frequent consequence of hepatocellular carcinoma is dramatically reduced in the coming years. Universal vaccination against hepatitis B of all infants, adolescents; health workers and persons at risk against hepatitis B should be implemented. Sustainable funds must be secured to guarantee universal hepatitis B vaccination and appropriate care for those already afflicted with hepatitis B, hepatitis C and HCC.

It is recognized that major new resources will be required to achieve all of the above goals. Funds for universal vaccination are available now and this should be a priority of all government and national healthcare bodies with a goal to achieve universal HepB3 vaccination within the next 10 years. Similarly, simple and inexpensive approaches to reduce aflatoxin exposure will reap great benefits in decreasing the incidence of HCC and should receive major emphasis in countries where this is a severe problem. The longer term goals of providing appropriate care for those already afflicted with viral hepatitis and HCC must be approached now if success is ultimately to be obtained.
Proposal formulated by:
Douglas R. LaBrecque (Iowa City/USA), Michael Manns (Hannover/Germany), Jean Marie Dangou (Brazzaville/Congo)
Amendments were proposed by:
R. Al Zayadi (Cairo/Egypt), Ralph Kirsch and Michael Kew (Johannesburg/RSA), and Michael Voigt (Iowa City/USA).
The document was approved by the expert panel chaired by:
Douglas LaBrecque and R. Al Zayadi consisting of Naima Amrani (Rabat/Morocco), Hocine Asselah (Algiers/Algeria), Jacques Belghiti (Paris/France), Rolf Hultcrantz (Stockholm/Sweden), Valéne Paradis (Paris/France) and the participants of the 1st African Middle Eastern Congress on Digestive Oncology, meeting in Rabat, Morocco on February 2nd, 2008
Further critical review was provided by:
Craig N. Schapiro of the World Health Organization
Coordination:
Meinhard Classen (Munich/Germany)
The Declaration has been endorsed by:
Union Internationale contre le Cancer (UICC)
International Association for the Study of the Liver (IASL)
African Association for the Study of the Liver (AASL)
American Association for the Study of the Liver (AASL)
European Association for the Study of the Liver (EASL)
African Middle Eastern Association for the Study of the Liver (AMAGE)
International Digestive Cancer Alliance (IDCA)
and is pending with WHO
Posters
1 CANCER GENERAL CONSIDERATIONS

1.1 Epidémiologie des cancers digestifs en milieu hospitalier

M Diarra1, A Konate1, CB Traoré3, A Souckho-Kaya2, D Sangare1, H Sow1, K Doumbia-Samake1, G Diallo4, M Dembelé2, HA Traoré2, MY Maiga1

1 Service d’hépato-gastroentérologie, CHU Gabriel Touré, 2 Service de médecine interne CHU Point G, 3 Institut National de Recherche en Santé Publique(INRSP), 4 Service de chirurgie générale, CHU Gabriel Touré, Bamako (Mali)

Les cancers digestifs sont de plus en plus constatés dans nos régions, probablement du fait de la disponibilité plus importante des moyens diagnostiques. Le but principal de notre travail était d’étudier l’épidémiologie de ces affections dans les services d’hépato-gastroentérologie et de chirurgie générale du CHU Gabriel Touré.
Il s’agissait d’une étude tranversale ayant porté sur les patients hospitalisés de février à juin 2007 puis de février à juin 2008.
Nous avons trouvé 115 cancers digestifs sur 1 547 patients hospitalisés, soit une fréquence de 7,4%. Le sex ratio était de 1,5 en faveur des hommes et l’âge moyen des patients était de 56,6 ± 2,4 ans.
Les cancers de l’estomac et le CHC étaient plus fréquents avec respectivement: 59,1% et 19,1% des cas.
Les ménagères et les cultivateurs (couches socio-économiques défavorisées) étaient plus fréquemment atteints, avec respectivement 34,8% et 33% des cas.
La salaison, le fumage, la consommation de tabac, de tô (pâte de céréale) avec potasse ont été les facteurs de risque les plus retrouvés dans respectivement 74,8%, 80,9%, 33,9% et 99,1% des cas.

2 OESOPHAGUS

2.1 Esophageal Adenocarcinoma in Barrett’s Esophagus

B Elhamidi, H Elazrak, M Tahiri, F Haddad, W Badre, M Bellabah, R Alaoui
Gastro-enterology Unit, Ibn Rochd university hospital, Casablanca (Morocco)

Introduction: Adenocarcinoma of the esophagus has been reported to be increasing in incidence in numerous regions throughout the world. It is the consequence of the degeneration of Barrett’s esophagus, itself due to gastroesophageal reflux disease. This form of esophageal carcinoma currently represents 20% of esophageal cancers.

Patients and methods: This is a retrospective study conducted over a period of 9 years (2000-September 2009).
It concerns 10 patients with esophageal adenocarcinoma occurring in Barrett’s esophagus collected at the gastroenterology unit of Ibn Roshd university hospital in Casablanca.

Results: There were 8 men and 2 women with a median age of 61.3 years with a history of unexplored gastroesophageal reflux disease. Clinical presentation was dysphagia with important weight loss in all patients. Endoscopy revealed an ulcerative and exophytic tumor in all patients; it was stenosing in 4 cases. The pathological study diagnosed an esophageal adenocarcinoma on Barrett’s esophagus. A loco-regional invasion was found in one case, liver metastases in 4 cases and peritoneal carcinomatosis in one case. 3 patients underwent surgery and 7 patients a symptomatic treatment.

Conclusion: Endoscopic detection of precancerous lesions or cancer at an early stage within the Barrett’s esophagus is the only way to improve the prognosis of this form of esophageal cancer. The 5-year survival is less than 10% when the diagnosis is made at a stage where the patient is symptomatic. We must underline the value of screening Barrett’s esophagus, as well as better management of gastroesophageal reflux disease.
2.2 Adenocarcinoma complicating Barrett’s oesophagus

Hanan Rafi, Ilham Serraj, Laila Amrani, Nawal Kabbaj, Mouna Salihoun, M’hamed Nya, Mohamed Acharki, Zakia Chaoui, Naïma Amrani

EFD-Hepatogastroenterology Unit, Hospital Ibn Sina, UM5S, Rabat (Morocco)

**Background:** Barrett’s oesophagus (BO) is characterized by the replacement of stratified squamous epithelium of the distal oesophagus by a specialized intestinal-type columnar mucosa. It is may complicated by the development of adenocarcinoma (ADK). The aim is to report the prevalence of ADK complicating BO.

**Patients and methods:** From January 2008 to December 2010, 38 BO of 7102 upper digestive endoscopy were diagnosed (21 men and 17 females, mean age was 52 years). Demographic data, indications and results of upper endoscopy and histological examination of biopsies were evaluated.

**Results:** BO was diagnosed in 0.5% of patients. The main symptom was GERD (80%). BO was short in 30 patients (78%). Hiatus hernia was detected in 8 patients (21%). Histopathological study showed no dysplasia in 31 patients (81.5%), low grade of dysplasia in 4 patients (10.5%) and ADK in 3 patients (7.8%). Low grade dysplasia was confirmed in 2 patients who underwent follow-up. Patients with ADK underwent an oesophagogastrectomy.

**Conclusion:** Regular endoscopic surveillance of BO remains the real option for early Barrett’s ADK diagnosis and curative surgical management.

2.3 Epidemiological profile of esophagus cancer

Jihane Achour, Fouad Safsafi, Nawal Kabbaj, Mouna Salihoun, Ilham Serraj, Mohamed Acharki, Zakia Chaoui, M’hamed Nya, Laila Amrani, Naïma Amrani

EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Introduction:** Esophagus cancer is a digestive tumor with poor prognosis. The aim of this study is to assess its incidence, clinical, endoscopic and histological findings.

**Patients and methods:** All patients who had esophagus cancer with histological confirmation over a period of 5 years were included.

**Results:** 26 patients had esophagus cancer out of 9,154 upper digestive endoscopies performed, corresponding to a frequency of 0.28%. 23 patients were men and 3 were women, mean age was 54.7 years.

The identified risk factors were tobacco and alcohol respectively in 42% and 14%. The concurrent use of alcohol and tobacco was found in 7%.

Dysphagia was the major clinical sign (90%). The average diagnostic delay between the onset of dysphagia and achievement of an upper gastrointestinal endoscopy was 3 months. Lesions were located in most cases in the middle third of the esophagus (67%). The most frequent endoscopic aspect was ulcerative budding (66%) and the predominant histological type was squamous cell carcinoma (80%).

**Conclusion:** The incidence of esophageal cancer in our series is relatively lower than stomach cancer. It has male predominance and is most often registered at the thoracic esophagus. The most common histological type is squamous cell carcinoma.
2.4 Epidemiological and diagnosis aspects of oesophagus cancer

S Arazzakou, I Hallouly, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui

Gastroenterology Unit, Ibn Rochd Hospital, University Centre, Casablanca (Morocco)

**Purpose:** Oesophagus cancer is a severe tumour characterised by its digestive late onset and early release. The aim of this work is to analyze the epidemiological aspects and diagnosis of oesophageal cancer in our context.

**Material and methods:** This is a retrospective study over a period of 20 years including all cases oesophagus cancer confirmed by endoscopy, histology and radiology.

**Results:** In these 70 patients with a sex ratio of 1.4 and average age of 81 years (27-90 years), alcohol and tobacco was found in 37% of cases. Dysphagia with impairment of general condition was the main symptom. Endoscopy has objectified the prevalence of ulcerative lesions budding primarily at the middle third; the predominant histological type was squamous cell carcinoma. Almost half of our patients had local regional dissemination. Cancer of the oesophagus has an impact with male and mean age of 62. Etiological factors are dominated by alcohol consumption, smoking, dietary factors and pre-cancerous states.

**Conclusion:** Oesophagus cancer remains of poor prognosis; treatment is mainly based on surgery. Interest should be focussed in screening and surveillance of individuals at risk trying to fight against smoking and alcohol consumption.

2.5 Primary oesophageal lymphoma in immunocompetent patient

Ferdaous Raissouni, Mouna Salihoun, Nawal Kabbaj, Naïma Amrani

EFD-hepatogastroenterology unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Background:** The most common primary oesophageal tumors are carcinomas. Primary oesophageal lymphoma is rare. It is very often a metastasis of other localizations. We report an original case of primary oesophageal malignant non Hodgkin large B-cell lymphoma. We emphasize also on endoscopic management of treatment complications.

**Observation:** A 33 year-old man presented with dysphasia and weight loss. Upper digestive endoscopy found an infiltrative tumor in the lower oesophagus. Histopathological examination with immunohistochemical study of biopsies revealed malignant non Hodgkin diffuse large B-cell lymphoma. Computed tomography revealed a primary oesophageal tumor with no lymph nodes or metastasis. HIV was negative. Patient underwent chemoradiotherapy and feeding jejunostomy. Complete response was obtained. Five months after the end of treatment, patient developed dysphagia. Endoscopic and radiologic features revealed post radical stenosis without any malignancy in histological examination of mucosal biopsies. Stenosis was treated by 2 endoscopic dilation sessions with good improvement.

**Conclusion:** Primary oesophageal lymphoma in immunocompetent patient is extremely rare. Only 20% of cases have been reported in the literature. In our report we also emphasize the safety and efficiency of endoscopic dilation in post-radical stenosis.
2.6 Squamous cell carcinoma of the oesophagus: about 97 cases

H Saati, S Issaad, L Zaidi, R Lalej, A Asguane, S Nadir, R Alaoui, A Cherkaoui
Hepatogastroenterology Unit, CHU Ibn Rochd, Casablanca (Morroco)

Introduction: Oesophageal cancer is the third digestive tract cancer; 80% of squamous cell carcinoma is linked with the consumption of alcohol and tobacco. The prognosis of this cancer is poor because of late diagnosis (most often dysphagia). Since the advent of chemo radiation, surgical removal is no longer the only curative treatment.

Purpose: To remind the epidemiology, diagnosis and treatment of this disease and to report on the difficulty of care in our country.

Materials and methods: A retrospective study on 97 cases of squamous cell carcinoma (1990-2009).

Results: This series represents 7% of digestive patients with cancers hospitalized during that period, the average age of our patients being 67 years with sex ratio (M / F) of 1.5. The consumption of alcohol and tobacco has been reported in 38% of patients. Dysphagia was the main reason for consultation (94%). 31% of patients showed signs of malnutrition and dehydration on clinical examination. Esogastroduodenal endoscopy showed a ulcerated budding tumour in 49% of patients. The staging showed a local-regional extension in 75% of cases classified T4N0M0 while 11% of patients were in stages of liver metastases classified T4N1M1. 38% of patients received chemotherapy and/or chemoradiotherapy. 28% associated with a feeding jejunostomy. Outcome was fatal to all patients after 3 months, two patients received esophageal prostheses.

Discussion: Cancer of the oesophagus is the ninth most common cancer worldwide. In Morocco it represents 12.6% of all digestive cancers between 1985 and 2002 according to the National Institute of Oncology Rabat. Risk factors are dominated by tobacco and alcohol consumption in 90% of cases, despite many advances in screening, diagnosis, assessment and treatment of this tumour. Diagnosis is still often too late.

Conclusion: Considering the severity of the prognosis, a multidisciplinary approach is necessary, including surgery, radiotherapy and chemotherapy.

2.7 Plummer-Vinson syndrome complicated by postcricoid carcinoma

H Seddik, H Massit, F Rouiba, FZ Elhamdi, A Benkirane
Gastroenterology Unit II, University Military Hospital Mohamed V, Rabat (Morroco)

Introduction: Plummer-Vinson syndrome is a rare pathology especially affecting women. It associates iron-deficiency anaemia, dysphagia with or without esophageal webbing and constitute a high-risk condition of carcinoma of the pharynx and oesophagus. We report the first Moroccan case of a Plummer-Vinson syndrome heralded by postcricoid carcinoma.

Case report: A 33-year-old woman presented with a 14-year history of mild dysphagia, which had progressed to severe dysphagia and odynophagia to both solids and liquids since the 3 previous months. Her physical examination was normal. Endoscopic evaluation revealed an exophytic postcricoid mass with cervical esophageal webbing. The biopsies of the hypopharyngeal mass were positive for moderately differentiated squamous cell carcinoma. Laboratory evaluation yielded a microcytic anemia, iron deficiency anemia was confirmed. The depth of tumor invasion was considered T4N2cM0. She died from the disease before receiving chemoradiation therapy.

Conclusion: Since Plummer-Vinson syndrome is associated with an increased risk of squamous cell carcinoma of the pharynx and the esophagus, this leads us to insist on the interest of regular endoscopic follow up.
3 STOMACH – DUODENUM

3.1 Is there an indication for gastroscopy for idiopathic deep venous thrombosis of lower limbs?

H Romdhane, R Ennaifer, R Hfaiedh, H Ben Nejma, N Bel Hadj
Gastroenterology Unit, Mongi Slim University Hospital, La Marsa, Tunis (Tunisia)

Background: Association between cancer and deep venous thrombosis (DVT) is common. It represents usually an independent predictive factor of poor prognosis in cancer. The aim of our study is to evaluate the usefulness of gastroscopy in the etiologic inquiry for DVT of lower limbs in appearance idiopathic.

Patients and Methods: We conducted a retrospective study during 3 years (from October 31st 2007 until October 31st 2010). Data were collected from endoscopic reports. The indication for this exam was etiologic inquiry for DVT of lower limbs. We studied age, sex and endoscopic findings.

Results: We found 39 gastroscopies which were done during this period searching the cause of DVT of lower limbs. We had 23 females and 16 males. The average age was 60.17 years (extremes 28-86 years). The gastroscopy findings were suggestive of gastric cancer in only 5% of cases. This exam was normal in 46.1% of cases and showed a congestive and erosive antral gastropathy in 38.4% of cases.

Conclusion: Because of lack of benefice in global survival rate, a systematic screening by gastroscopy for cancer is not recommended for patients with DVT of lower limbs. Only routine exams (medical history, physical examination, lab exams and chest radiography) are useful. Gastroscopy should be done only if there are suggestive symptoms.

3.2 Epidemiology of gastric cancer in Tunisia

A Ouakâa-Kchaou, A Kochlef, D Gargouri, S Jebali, H Elloumi, J Kharrat, A Ghorbel
Gastroenterology unit, Habib Thameur Hospital, Tunis (Tunisia)

Background and aim: Gastric cancer is a cause of significant morbidity and cancer-related mortality worldwide. Improvement of survival requires epidemiological studies which allow to identify risk groups, and to determine predictive factors and potential preventive measures. This study aimed to investigate the epidemiological profile of this cancer in Tunisia, during the last two decades.

Methods: We conducted a descriptive study, over a period of 15 years, including consecutive cases of gastric carcinoma. We also analyzed the results of 15 Tunisian series realized between 1990 and 2010, and the data of the register of cancer of the North of Tunisia (RCNT) between 1995-1998 and 1999-2003 with projections on 2024.

Results: During the period of study, we enrolled 156 cases of gastric cancer. The incidence was 10.4 cases a year. It varied between 7 and 12 cases a year in the other series (3-24 cases/year). According to the RCNT, this incidence was 5.3 men and 3.1 women a year for 100,000 inhabitants, and the gastric cancer represented the first digestive cancer in men. The average age of the patients in our study was of 62 years. It was situated at the beginning of the 6th decade in most of the series, with a peak of frequency between 60 and 70 years. The sex-ratio was close to 2 in the majority of the studies (1.7-2.9). It was 2.25 in our series. Young patients represented 10.9% of the patients of our series. This proportion ranged from 4.37 to 9.6% in the other studies. The young population was characterized by a feminine ascendancy with an inversion of the sex-ratio (0.3 in our study, and 0.2 to 0.63 in the other series). Old patients represented 21.8% of the patients of our series. This proportion varied between 20.58% and 35.76% in the other Tunisian studies, while it was lower than 17% in the western series.

Conclusion: Gastric cancer in Tunisia is characterized by an incidence widely lower than that observed in the Asian and European countries, and by a diagnostic delay with discovery of the tumor at an advanced stage. Additional analytical studies are warranted to determine a protocol of screening and prevention.
3.3 Gastric cancer: epidemiological, endoscopic and histopathological profile

EFD-Hepatogastroenterology unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Gastric cancer is one of the most frequent digestive cancers in the world and infection with Helicobacter pylori (Hp) is the most important etiological factor. The aim is to determine the frequency, epidemiology, endoscopic and histological aspect of these cancers and the frequency of Hp.

Patients and methods: All cases of gastric cancer were enrolled from January 2006 to September 2010. A histopathological study of tumor with Hp research (Sydney system) was made in all patients. Immunohistochemical analysis was done as case basis.

Results: 95 cases of gastric cancer out of 9180 endoscopies were enrolled (1.03%). Mean age was 54 ± 11.3 years (range 28-80 years) with a male predominance (sex ratio: 2/1). The most frequent endoscopic aspect was a budding ulcerative process in 52.6%, followed by congestive heavy folds and/or ulcerated folds in 16.8%, congestive pangastritis in 11.5%, sessile polyp in 7.36%, gastric ulcer in 10.5% and polypoid aspect in 1.05%. Gastric cancer was localized in fundus in 46.3%, in antrum in 16.8% and was diffuse in 36.8%. Histological study found an adenocarcinoma in 67.3% with presence of Hp in 46.8%, non-Hodgkin’s lymphoma in 20 cases (31%) with presence of Hp in 85%, a carcinoid tumor in 8 cases (8.4%), a stromal tumor in 4.2% and Kaposi’s sarcoma in one case (1.05%).

Conclusion: Gastric cancer is predominant in male. The predominant endoscopic aspect is a budding ulcerative process; the most common histological type is adenocarcinoma. Its association with Hp highlights the oncogenic role of such bacteria.

3.4 Prognostic factors of gastric cancer in elderly population: about 34 cases

A Kochlef, A Ouakaa-Kchaou, D Gargouri, H Elloumi, J Kherrat, A Ghorbel
Hepato-gastroenterology unit, Habib Thameur Hospital (Tunisia)

Introduction: The tumor stage at diagnosis is the main prognostic factor in patients older than 70 years with gastric cancer. Other prognostic factors in this population are variously appreciated in the literature. The aim of this work was to study prognostic factors of gastric cancer in elderly patients.

Materials and methods: This is a retrospective study conducted over a period of 15 years on patients hospitalized for gastric adenocarcinoma. Patients whose age was below 70 years were excluded. We performed a statistical prognostic study in the population of elderly patients.

Results: We initially compiled 156 cases of gastric adenocarcinoma. Patients whose age was ≥ 70 years (n = 34) accounted for 21.8% of all patients. In univariate analysis varied factors having a significant impact on survival were no treatment, operability, the parietal extension of the tumor or T stage, degree of lymph node or N stage, tumor stage according classification of the International Union for the fight against Cancer (UICC) and the type of adenocarcinoma according to the classification of Lauren. In multivariate analysis, only the no treatment was significantly related to survival, it multiplied the risk of death by 3.4. In contrast, sex of patients, type of surgery (curative or palliative), resection of the tumor and its location had no prognostic value.

Conclusion: The prognosis of gastric cancer in patients older than 70 years looks better when surgery is performed. Thus, radical treatment should be indicated in this population even in case of advanced stages or co-morbidities.
3.5 Surgical aspects of gastric cancer according to age: comparative study about 51 cases

A Kochlef, A Ouakaa-Kchaou, D Gargouri, H Elloumi, J Kharrat, A Ghorbel
Hepato-gastroenterology unit, Habib Thameur Hospital (Tunisia)

Introduction: Morbidity and mortality related to surgery for gastric cancer seems more important in elderly patients with high operative risk associated with comorbidities. Furthermore, some studies have reported rates of operability and resectability in this population comparable to those observed in young patients. The aim of this study is to identify the rate of operability, resectability, postoperative complications and mortality of gastric adenocarcinoma and compared according to age.

Materials and methods: This is a comparative retrospective study, conducted over a period of 15 years, studying the particularities of surgical treatment of gastric adenocarcinoma according to age by comparing two groups of patients aged under 45 years over 70 years.

Results: During the study period, we collected 17 cases of gastric adenocarcinoma in young patients (age ≤ 45 years) and 34 cases of elderly patients (over 70 years). The operability rate was significantly higher among young patients. However, there was no significant difference between the two age groups on surgical approach, the type of surgery (curative or palliative), the rate of resectability, and made gestures. According to surgical findings, the distal location of the tumor was most common in the two age groups, but the proximal location (cardial) was more frequent among young patients (20% versus 10.5% of elderly patients). Moreover, the difference between the two age groups was not significant when the frequency of peritoneal dissemination and visceral metastases and locoregional remotely. The third relay node (N3) was significantly more common among young people. Lymphadenectomy was usually incomplete D0 among young people, and extended, under oncological D2 in elderly patients. The early postoperative mortality and postoperative complications specific and nonspecific, were not significantly different between the two age groups.

Conclusion: In our study, the rate of operability of gastric cancer is lower in older patients; however the complications of surgical treatment in this population are not higher compared to the young population.

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3.6 Adénocarcinomes gastriques localement avancés non métastatiques: expérience du service de gastro-entérologie du CHU MedVI

K Elfadi1, K Charaf1, Z Samlani1, A Diffaa1, K Krati1, A EL Mahfoudi2, A El Omrani2, A Tahri2, Y Narjis3, B Finech3, Abouhassan4, Samkaoui4

1 Service d’hépato-Gastro-entérologie, 2 Service d’onco-radiothérapie, 3 Service de chirurgie viscérale, 4 Service de réanimation, CHU Mohammed VI, Marrakech (Maroc)

Les adénocarcinomes gastriques localement avancés représentent 30-50 % des adénocarci-noles gastriques au moment du diagnostic dans de nombreuses séries occidentales. Au Maroc, leur incidence et leur évolution restent mal connues. Leur prise en charge est multidisciplinaire nécessitant une coopération entre gastro-entérologue, chirurgien, oncologue et anatomopathologiste. Leur pronostic s’est nettement amélioré ces dernières années grâce à l’utilisation, à côté de la chirurgie, des thérapies anti cancéreuses systémiques et locorégionales. Le but de notre travail est de décrire les caractéristiques épidémiologiques, cliniques et évolutives des adénocarcinomes gastriques localement avancés suivis au service de gastro-entérologie du CHU Mohammed VI de Marrakech. Notre étude est rétrospective portant sur une période de 5 ans allant de 2004 à 2008 intéressant 31 dossiers de patients ayant un adénocarcinome gastrique localement avancé hospitalisé au service de gastroentérologie. L’adénocarcinome gastrique venait en 1ère place des cancers gastriques (83,3 %), et les formes localement avancées représentaient 39,7 % de ce type histologique. Le sexe ratio était de 0,63. La moyenne d’âge était de 54,6 ans. La symptomatologie clinique a été dominée par les épigastralgies (100 %). L’examen physique a retrouvé une masse épigastrique dans 19,4 % des...
3.7 Tumor stage and prognosis of historic age-related gastric cancer: comparison between young and elderly patients: about 51 cases

A Kochlef, A Ouakaa-Kchaou, D Gargouri, H Elloumi, S Jebali, J Kharrat, A Ghorbel
Hepato-gastroenterology unit, Habib Thameur Hospital (Tunisia)

Introduction: The correlation between the prognosis of gastric cancer and age at diagnosis remains controversial. Some studies suggest that in the younger population, the tumor has a different natural history and a more aggressive phenotype associated with the frequency of advanced stages and unfavourable histopathology. The aim of our work was to study the clinical staging and histo-prognostic tumor according to age.

Materials and methods: This is a comparative retrospective study, conducted over a period of 15 years, including cases of adenocarcinoma (ADK) stomach in patients age ≤ 45 years and ≥ 70 years. We studied the pathologic features, tumor stage and evolutionary features of this cancer in the two age groups.

Results: We collected 17 cases of gastric ADK young patients (≤ 45 years) and 34 cases in older patients (≥ 70 years). In the younger population, the tumor was characterized by higher prevalence of advanced stages or stage IV of UICC (82.4% versus 61.8%), and forms poorly differentiated, with a significantly higher frequency of linitis plastica (64.7% versus 39.4%, p = 0.045), and diffuse type of Lauren (76.5% versus 35.3%, p = 0.006). In patients operated on, the third relay node (N3) was significantly more frequently invaded among young patients (83.4% versus 50%, p = 0.021). However, survival was statistically better in young people. Indeed, the average survival was 112.5 months when age was ≤ 45 years, against 32.3 months when it was ≥ 70 years (p = 0.01). Age ≥ 70 years increased the risk of death by 8.2.

Conclusion: In our study, survival in gastric cancer seems better in patients younger than 45 years. However, this population occurs most often with an advanced stage and unfavourable histopathology.

3.8 Clinicopathological pattern and management of gastric cancer in Ile-Ife (Nigeria)

Olusegun I Alatise1, Olusegun Adekanle2, Denis A Ndububa2, Olusegun S Ojo3, Adeolu O Arowolo1, Akinbolaji A Akinkuolie1
1 Department of Surgery, 2 Department of Medicine, 3 Department of Pathology
College of Health Sciences, Obafemi Awolowo University, Ile-Ife (Nigeria)

Background: Gastric cancer is an important medical problem worldwide. There is a wide geographical variation in the prevalence of gastric malignant lesions particularly the gastric cancers. Most patients present with an advanced disease. This study presents the clinicopathological pattern of gastric cancer in Ile-Ife, to demonstrate the nature of the disease and possibly provide an explanation for the late and advanced pattern of disease in this environment.
Patients and Methods: The study was conducted at Obafemi Awolowo University Teaching Hospital complex, Ile-Ife, Nigeria, which houses the Ife-Ijesa cancer registry. The histopathology results of 300 patients and clinical records of 200 patients with gastric cancer were reviewed from 1989-2009.

Results: 300 patients were seen over a period of 20 years accounting for about 4.8% of all malignancies seen during that period. This gives an annual incidence of 15 cases. The male/female ratio is 3:2. The peak age group of incidence is in the 41-60 age group. The youngest patient was a 7-year old male. Only 6 (2.0%) patients presented with features of early gastric cancer while others presented with features of advanced disease. Endoscopy showed 25.5% of the tumours to be in the cardia and fundus while 70.4% of the tumours were in the gastric body and antrum and 4.1% of the tumours involved the entire stomach. Only 175 patients were operated upon; 60.6% patients had laparotomy with or without gastrojejunostomy because the tumour was unresectable, and only 30.4% patients did not undergo any form of resection. Prognosis was very poor with 5-year survival being about 14.0%.

Conclusion: Gastric cancer in Ile Ife-Nigeria has a yearly incidence of 15 cases per annum, with male to female ratio of 3:2. Most of the patients were seen at an advanced stage with widespread intraperitoneal metastasis and thus, with poor outcome. High index of suspicion by clinicians, health education for early presentation and availability of endoscopic facilities may help to facilitate early diagnosis and improve outcome.

3.9 Epidemiological profile of gastric cancer in a Moroccan university hospital

J Achour², F Rouibaa², H El Koundi², M Tamzourt², R Akka², R Khmamouch¹, M Ichou¹, I Aouragh²

¹ Gastroenterology unit, medical oncology unit, ² Military Hospital Mohamed V, Rabat (Morocco)

Background: Gastric cancers are mainly discovered at an advanced stage. In absence of organized screening there is no improvement in early diagnosis. Surgery is the only curative treatment; the modalities of adjuvant therapy are still a matter of debate. The purpose of this study is to highlight the epidemiologic profile and to determine the prevalence of H. pylori in gastric adenocarcinoma in Moroccan population.

Patients and methods: This retrospective study was undertaken to determine the epidemiologic profile of gastric cancer based on the analysis of 38 cases diagnosed in the gastroenterology and medical oncology units of the University military Hospital Mohamed V in Rabat from January 2008 to December 2010. We included histological-proven non cardia gastric adenocarcinoma.

Results and discussion: The gastric cancer has a male-to-female ratio of 3:2. Age ranged from 31 to 92 years with a medium age of 78 years; the age group most affected was between 45 and 65 years. The main clinical features were: epigastric pain in 63%, vomiting in 21% cases, upper gastrointestinal bleeding was rarely founded only in 2 cases. Weight loss was a constant sign. The antrum (62.5%) was the most frequent location followed by the antro fundus (20.8%). H pylori infection was found in 78% of gastric biopsies. The most frequent histological entity, accounting for 63% of cases was adenocarcinoma with medium differentiation and 37% cases of gastric linitis. Most patients (nearly 90%) had an advanced metastatic stage, and they received a palliative treatment. Despite a decrease of incidence, gastric carcinoma remains one of the ten leading cause of cancer-related deaths worldwide. The discovery of Helicobacter pylori as a carcinogen factor is the main improvement during the last ten years. Prevention of Helicobacter pylori infection should decrease the incidence of this cancer.

3.10 Epidemiological profile of gastric tumors: about 53 cases

O Ahmadi, H Sammoud, M Slaoui, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui

Gastroenterology unit, Ibn Rochd hospital university centre, Casablanca (Morocco)

Introduction: Gastric tumours represent a major problem of public health, cause of their frequency and severity. Upper gastrointestinal endoscopy plays an important role for the diagnosis.
Aim: To appreciate endoscopic and histological appearances of gastric tumours.

Materials and methods: This is a retrospective study of 53 cases collected in the gastroenterology unit of Ibn Rochd university hospital centre over 4 years (January 2007 to October 2010).

Results: The mean age was 59 years and the sex ratio M/F was 2.3. Toxic habits, the main risk factor, were found in 32% of cases. Clinical presentations were dominated by epigastric pain and the average time of diagnosis was beyond 5 months. Upper gastrointestinal endoscopy was realized in all our patients. Tumor sites were antrum in 45.3% of cases and fundus in 35.84% of cases. The histology was dominated by adenocarcinoma found in 96% of cases. The staging revealed metastases in 54.7% of cases, loco-regional extension in 18.8%, and no metastasis in 22.6%.

Conclusion: Primary gastric cancers are common; they are in the second place after colorectal cancers. They occur in relatively young, mostly male people. They present mostly at an advanced stage and are lethal unless diagnosed early.

3.11 The gastric adenocarcinoma: what about epidemiological, endoscopic, histological particularities in Marrakech (Morocco)

A Diffaa, Z Samlani, K Rabbani, Y Narjis, T Aboulhassan, N Samkaoui, B Finech, K Krati
Hepato-Gastroenterology unit, general surgery and reanimation unit, Cadi Ayyad University, University Hospital Mohamed VI, Marrakech (Maroc)

The gastric adenocarcinoma is the most frequent tumour of stomach.

Aim: To study the epidemiological characteristic and different risk factors, endoscopic and histological findings in our population.

Patients and methods: Retrospective descriptive study between January 2004 and November 2010 of all the observations of gastric adenocarcinoma hospitalized in the hepato-gastroenterology unit of CHU Mohamed VI in Marrakech.

Results: Our series included 100 cases (59 males and 41 females), sex ratio was 1.44. The mean age was 55.52 years [21-82 years]. The mean delay of consultation was 14.2 months. A low socio-economic level was found in 66% of cases. There was no cancer familial history in this series. Atrophic gastritis was noted in 35% of the cases, intestinal metaplasia: 17%, tobacco use: 20%, alcohol consumption: 9%. The tumour was located in the antrum in 38% of the cases, in the lesser gastric curvature in 17% and the fundus in 20%. This tumour was budding in 33% of the cases, infiltrating in 18%, ulcero-infiltrating in 12%. The most commonly found type is adenocarcinoma with independent cells in 46 patients (46%) followed by tubular in 19 patients (19%) and mucinous in 1 patient (1%).

Conclusion: Our study noted a high frequency of undifferentiated forms and delay in diagnosis.

3.12 Gastrocolic fistula: a rare complication of gastric carcinoma

H Elazrak, B Elhamidi, M Tahir, F Hadda, W Badre, A Bellabah, R Alaoui
Gastroenterology Unit, Ibn Rochd University Hospital, Casablanca (Morocco)

Introduction: Gastrocolic fistula can be caused by both benign conditions (peptic ulcer disease, perforated diverticulum, postgastroenterotomy, percutaneous endoscopic gastrostomy (PEG) tube insertion and Crohn’s disease), and malignant conditions (malignancies of the stomach or colon). It is very rarely caused by gastric carcinoma.

Objective: The purpose of this study was to report a new case of gastric carcinoma complicated by gastrocolic fistula.

Observation: A 35-year old man, who denied any past medical history, was admitted on the hospital with a 7-month history of abdominal pain, chronic vomiting and rectal bleeding of low abundance. Five months later, he presented four
episodes of hematemesis complicated by an anemic syndrome with loss of weight and appetite. He appeared pale and cachectic. Physical examination showed a hard painless abdominal mass extending from epigastrium to the umbilicus and measuring 9x5 cm. The laboratory investigation showed microcytic hypochromic anemia with haemoglobin of 7.3 g/dl. Gastroscopy revealed a tumor budding located in the antro-fundic junction with a large and deep antral ulceration through which leeks a brownish and fetid liquid, with suspicion of fistula with colon. Biopsies showed a well differentiated gastric adenocarcinoma, infiltrating, necrotic and ulcerated. Abdominal computed tomography showed a thickened gastric and colonic wall. Water soluble contrast showed a gastrocolic fistula with multiple closed fistulas toward the peritoneum. Our patient underwent a lower gastrectomy in one piece involving part of the invaded transverse colon and two jejunal loops with restoration of continuity. The postoperative course was uneventful.

**Conclusion:** Gastrocolic fistulas are a rare complication of gastric adenocarcinoma. The clinical signs are not always specific. Diagnosis confirmation is based on radiology and endoscopy. Treatment is based on surgery with adjuvant chemotherapy. The prognosis remains poor.

### 3.13 Gastric cancer complicated with Krukenberg tumors: is it responding to chemotherapy? Clinical study and review

**Samia Ghanem, Sara Naciri, Meriem Glaoui**
National Institute of Oncology, Rabat (Morocco)

**Introduction:** Gastric cancer complicated with Krukenberg tumors (KT) is a rare type of tumour that is not well studied. The purpose of this study is to reveal the therapeutic response, and outcomes of patients with gastric cancer complicated with KT treated with chemotherapy.

**Methods:** We studied 9 cases of gastric cancer complicated with KT who were treated during the past 5 years at the National Institute of Oncology in Rabat, Morocco.

**Results:** The mean age was 51 years, operated since 2006; no case was discovered as a result of prophylactic oophorectomy. Timing of TK diagnosis: 3 metachronous cases, 6 synchronous cases. The histological subtype was signet-ring cell carcinoma and adenocarcinoma, 6 out of 9 presented microscopic peritoneal tumours despite a lack of strong correlation with the appearance of carcinomatosis or cytology of ascites. The KT was treated by chemotherapy, no case had a surgery type debulking. Survival: 2 patients are still alive; free survival was 3 to 6 months.

**Conclusion:** The gastric cancer complicated with KT is a rare type of tumours. Treatment methods in the literature vary widely. Prognostic features of KT are very poor; as a consequence of the poor prognosis of gastric cancer.

### 3.14 Gastric cancer in young patients (lymphomas excluded)

**I Hallouly, J Mohcine, S Arazzakou, M Tahiri, F Haddad, W Badre, A Bellabh, R Alaoui**
Gastroenterology department, Ibn Rochd Hospital University Centre, Casablanca (Morocco)

**Introduction:** Gastric cancer remains a major public health problem worldwide because of its incidence and poor prognosis. In Morocco, it is the second cancer in frequency after colorectal cancer. Gastrointestinal endoscopy remains the key diagnostic feature. Young patients are increasingly affected.

**Aim:** To describe the clinical, endoscopic and pathological gastric tumours in young patients. Charts from all patients 45 years of age or younger at the time of diagnosis, between January 1, 2002 to October 31, 2010, were retrospectively reviewed.
Results: During the study period, 192 cases of gastric cancer were seen at our institution, 36 (18.7%) were in patients 45 years of age or younger. Mean patient age was 33 years (21-45 years). Fifty-four patients (54.3%) were males. The average period of consultation was 4 months old. Clinical presentation was dominated by epigastric pain (80%), vomiting (30%), weight loss (22%), gastrointestinal bleeding (36%) and an epigastric mass (5.55%). Gastroscopy showed an ulcerative budding process (50%), infiltrating ulcerative lesions (11%), large fundic folds (14%), chronic gastritis (8.33%), gastric ulcer (14%), tumor stenosis (2.77%), the seat of the lesion was the fundus (41.67%), antral (16.67%) and diffuse (36%), pathological study found adenocarcinoma (94.44%), gastric linitis (36%), stromal tumour (5.55%). Gastric cancer was metastatic in 83%.

Conclusion: In our series, the clinical symptoms are non specific and polymorphic. The endoscopic appearance is the most common: ulcerative budding process. The adenocarcinomas are the most frequent histological type.

3.15 Metastatic gastric linitis

I Mechale, M Slaoui, O Ahmadi, F Haddad, M Tahiri, W Badre, A Bellabah, R Alaoui
Hepato-Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: The gastric linitis plastica is a special form of gastric cancer. It represents 3 to 19% of gastric cancers. Its diagnosis is based on morphological arguments represented by an infiltrating tumor and anatopathological arguments associating independent cells realizing a “signet ring” aspect associated with a fibrous stroma. If the gastric location is the most frequent, colonic locations, small bowel and appendix are rare. The anatomo-pathological examination only allows for the diagnosis of digestive linitis without indication of its primitive or secondary character.

Observation: We report the observation of a 21-year-old patient with a history a great father treated for colic polyposis. The history of the disease dates back to a month before his hospitalization due to subocclusive syndrome for which he was operated. The exploration found a small bowel stenosis at 2 m of the duodeno-jejunal angle with presence of 2 polyps at 1.20 m and 1.40 m of the duodenojejunal angle, and the presence of a gastric tumor associated. The patient underwent a small bowel resection with end to end anastomosis. The biopsy showed the presence of an undifferentiated carcinoma with signet ring cells. An upper gastrointestinal endoscopy objectified large fundic folds ulcerated in some places and a bad expansion after insufflation. The biopsy is in favour of an undifferentiated carcinoma with isolated infiltrating cells. The colonoscopy showed a strawberry-like sessile lesion of 15 mm at the right colic flexure. The biopsies showed the presence of a poorly differentiated adenocarcinoma with signet ring cells. The small bowel barium enema showed a jejunum polyp and the presence of a bifocal ileal stenosis. The echography revealed the presence of celiac enteric adenopathies associated with ascites and mesenteric fat infiltration. The outcome was marked by the appearance of digestive bleeding with anaemia and CIVD. The treatment was palliative and based on repeated transfusions.

Conclusion: Linitis gastric cancer has a bad prognosis explained by the frequency of peritoneal dissemination, lymphatic invasion and extension to neighbouring organs.

3.16 Effect of periodontal therapy on eradication of gastric Helicobacter pylori

Amal Bouziane, Oumkeltoum Ennibi
Department of periodontology, Faculty of Dental Medicine, Rabat (Morocco)

Background: Helicobacter pylori (Hp) is considered to be a pathogen responsible for gastritis and peptic ulcers, and a risk factor for gastric cancer. The oral cavity has been proposed as a reservoir for Hp that could be implicated in the refractoriness to gastric therapy. A periodontal pocket in the teeth of individuals with periodontitis may function as a reservoir for Hp.

Aim: This review tried to assess the effect of dental plaque control and periodontal therapy on gastric Hp eradication.
Methods: Relevant papers were searched, critically analyzed and their data were extracted.
Results: Studies assessing the efficacy of Hp eradication from the stomach after oral hygiene practices and periodontal treatment were reviewed.
Conclusion: Periodontal therapy seems to increase the gastric therapy efficacy and decrease the risk of infection recurrence.

3.17 Krukenberg tumors (4 case reports)

I Sadeq, A El Khader, W Hliwa, A Alaoui, A Cherkaoui
Hepato-gastroenterology unit, hospital university centre Ibn Rochd, Casablanca (Morocco)

Introduction: Krukenberg tumours are rare malignant tumours of the ovary (1 to 2% of ovarian tumours), often secondary to bilateral and digestive cancer. Diffuse gastric carcinoma used to be the most common. Microscopically, they are characterized by appearance of mucin-secreting signet-ring cells in the tissue of the ovary.
Aim: To report from 4 cases collected in the Gastroenterology unit of the Hospital Ibn Rochd in Casablanca, epidemiological, clinical, evolutionary and therapeutic features.
Materials and methods: Retrospective study over a period of 9 years (January 2002-November 2010), collected in the gastroenterology unit of the hospital Ibn Rochd. During this period, 4 cases of Krukenberg tumour were identified.
Results: The average age of our patients was 46 years (37-61 years). They consulted because of an increase in their abdomen volume, epigastric pain, and pelvic pain, with deterioration of general conditions. Abdominopelvic ultrasound found an ovarian tumour, the size and echotexture of which was variable, unilateral in 2 cases, bilateral in 2 cases with abundant ascites. The esophago-gastro-duodenal endoscopy found an ulcerative budding process in the antrum in one case, budding in the greater curvature in one case, burrowing ulcer of the lesser curvature in one case, normal in one case. Colonoscopy found a tumour of the transverse colon in one case and was normal in 3 cases. Abdomen and pelvis scan done as part of locoregional staging revealed a right urethral hydronephrosis, an isolated nodule in segment VI of the liver. CA125 was elevated in all patients. Radical surgery was possible only in 3 patients; one patient exceeding the local state was submitted to an oophorectomy with multiple biopsies. The histology of the resected specimen or biopsy confirmed the diagnosis of Krukenberg tumours. Chemotherapy was performed only in 2 patients, 2 other patients could not receive this treatment because of an alteration of their generally state. The outcome was fatal in all patients.
Conclusion: The Krukenberg tumour of the ovary is a rare metastatic tumour occurring in young women. The starting point is gastrointestinal, most commonly the stomach. The pathological physiology is unclear. The diagnosis is often delayed. The treatment is essentially surgical and the prognosis is bad.

3.18 Métastase ombilicale d’une tumeur viscérale (nodule de Sœur Marie-Joseph) :
à propos de deux cas

K Charaf1, K Elfadi1, Z Samlani1, A Diffa1, K Krati1, F Jghaimi2, B Belaabidiya2
1 Service de gastro-entérologie,
2 Service d’anatomie pathologique, CHU Mohammed VI, Marrakech (Maroc)

Introduction: Les métastases ombilicales des tumeurs viscérales sont rares. Elles constituent parfois le seul signe d’appel de la pathologie cancéreuse, et témoignent d’un pronostic péjoratif. La recherche du primitif n’est pas toujours facile, mais on note la prédominance de certains viscères qui doivent être explorés en premier: Nous rapportons deux observations de deux patientes présentant des métastases ombilicales d’une tumeur gastrique.
Observation 1: Mme I.E., âgée de 24 ans, sans antécédent pathologique particulier, consulte pour une masse ombilicale évoluant depuis 3 mois avec notion d’épigastralgies chroniques depuis 2 ans comme seul signe clinique associé. L’examen clinique note une masse ombilicale mesurant 6 cm sur son plus grand diamètre, dure, indolore, mobile par rapport au plan profond. L’étude anatomopathologique de la biopsie de la masse ombilicale conclut à un adénocarcinome à cellules indépendantes ; la confirmation est aussitôt bien donnée par l’endoscopie avec biopsie. L’échographie abdomino-pelvienne trouve un épaississement irrégulier de la paroi gastrique et une lame d’ascite. Une chimiothérapie palliative est alors décidée, actuellement en cours.

Observation 2: Mme H.M., âgée de 34 ans, suivie pour adénocarcinome gastrique depuis le 7/11/2008 révélé cliniquement par des épigastralgies et méléna, opérée d’une gastrectomie des 4/5 avec chimiothérapie postopératoire. Après sa première cure de chimiothérapie, le 27/11/2008, elle a été perdue de vue. Elle revient le 15/2/2010 pour une distension abdominale et masse ombilicale. L’examen clinique trouve une ascite de grande abondance et une masse ombilicale de 8 cm de diamètre dure et fixe au plan profond. La biopsie de la masse avec étude histologique confirme la métastase cutanée ombilicale. La patiente est décédée 15 jours après son hospitalisation dans un tableau de profonde altération de l’état général.

Conclusion: Les métastases ombilicales des tumeurs viscérales sont rares. Elles posent un double problème : le diagnostic mais surtout le pronostic qui est souvent péjoratif.

3.19 Gastric lymphoma

Hanane Rafi, Nawal Kabbaj, Laïla Amrani, Mouna Salihoun, Ilham Serraj, Mohamed Acharki, M’hamed Nya, Zakia Chaoui, Naima Amrani
EFD-Hepatogastroenterology, Ibn Sina Hospital, UM5S, Rabat-Morocco

Background: Gastric lymphoma (NHL) represents approximately 3% of gastric tumours and 5.5% of lymphomas. The aim of this study is to determine epidemiological, clinical, endoscopic and histological aspects of LNH.

Material and Methods: 33 cases of gastric LNH out of 9102 gastroscopies were collected from July 2003 to July 2010. All patients underwent a gastroscopy with biopsies.

Results: 33 LNH (0.3%) were diagnosed: 19 men and 14 females. Mean age was 47 years (18-67 years). The main clinical symptom was epigastric pain in 63% of patients. Upper digestive endoscopy showed erythematous aspect in 39%, budding ulcerative tumor in 33%, large folds in 21% and polypoid lesion in 9%. The predominant localization was diffuse in 20 patients, fundus in 7 patients and antrum in 6 patients. Most frequent histological type was small Malt lymphoma in 66.6% and Hp was found in 84.8%.

Conclusion: Gastric LNH is rare but association with Hp is frequent. Hp related small cells lymphoma was the most frequent histological type. Thus, Hp eradication is necessary to prevent and treat LNH.

3.20 Digestive tract lymphoma revealed by Budd Chiari syndrome: about a case

OB Soulami, B Elhamidi, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui
Gastroenterology unit, Ibn Rochd University Hospital, Casablanca (Morocco)

Introduction: Budd Chiari syndrome is an unusual mode of presentation of gastrointestinal lymphoma. Below is our observation.

Patient and method: We report the case of an 82-year old patient operated on for bilateral cataract surgery in the past, and admitted for subocclusive episodes and abdominal distension with weight loss. Clinical examination found hepatosplenomegaly, axillary and cervical lymph nodes. Abdominal ultrasound showed an expansive process of the segment VII of the liver; deep lymph nodes of the liver hilum, spleen, right iliac and aorto-caval vessels, and ascites.
Abdominal CT showed a calcified cyst wall and multiple abdominal lymph nodes. Hepatic doppler showed a magma of lymph nodes surrounding the inferior vena cava. The gastroscopy showed a slight thickening of the fundic folds. The histology of biopsies found diffused fundic small-cell lymphoid proliferation. The biopsy of cervical lymph nodes showed an undifferentiated tumor proliferation suggestive of lymphoma.

**Discussion:** Budd Chiari syndrome results from obstruction of hepatic veins or thrombosis of the termination of the inferior vena cava, encountered especially in the myeloproliferative disorders, paroxysmal nocturnal hemoglobinuria, and antiphospholipid syndrome or intraluminal tumor development due to hepatocellular carcinoma and extrinsic compression by lymph nodes. The prognosis depends on etiology.

**Conclusion:** Budd Chiari syndrome with digestive tract lymphoma is due to compression of the inferior vena cava by magmas of lymph nodes. This syndrome remains a rare revealing manifestation of digestive lymphoma, occurring especially in immunosuppressed patients.

### 3.2.1 Lymphome malin sur moignon gastrique: à propos d’une nouvelle observation

**Z Samlani, Z Bajaddoub, A Difaa, K Krati**

**Service de Gastro-entérologie, CHU Mohamed VI, Marrakech (Maroc)**

La survenue d’un cancer sur moignon de gastrectomie est une complication tardive et connue de la chirurgie gastrique. Le type histologique le plus commun étant l’adénocarcinome, le lymphome gastrique survient exceptionnellement après gastrectomie distale (une trentaine de cas seulement étaient rapportés dans la littérature). On rapporte un nouveau cas de lymphome gastrique malin non Hodgkinien type B à grandes cellules survenu sur un moignon gastrique.

**Observation:** Patient de 76 ans, ayant subi 20 ans auparavant une gastrectomie des 2/3 pour un ulcère antral histologiquement bénin sans traitement médical postopératoire, qui se présenta pour des épigastralgies chroniques atypiques. L’examen clinique était sans particularité. La gastroscopie a révélé un processus ulcéro-bourgeonnant de la petite courbure, dont la biopsie et l’étude histologique et immuno-histochimique ont conclu à un LMNH type B à grandes cellules. Le bilan d’extension a objectivé la présence de multiples adénopathies médiastinales non compressives avec un épaississement pariétal de la petite courbure gastrique. Une polychimiothérapie est en cours.

**Conclusion:** Le lymphome malin est un cancer qui survient exceptionnellement sur la lésion précanéreuse de gastrectomie, surtout dans le cadre du traitement chirurgical de l’ulcère gastro-duodénal, soulendant ainsi la question du rôle d’Helicobacter pylori dans sa cancérogenèse. Toutefois, cette entité rare ne doit pas nous faire négliger le risque accru d’adénocarcinome.

### 3.2.2 The contribution of endoscopy in non Hodgkin’s gastro-intestinal lymphoma

**J Mouhcine, I Hallouly, H Sammoud, F Haddad, M Tahir, W Badre, A Bellabah, R Alaoui**

**Gastroenterology department, Ibn Rochd university hospital centre, Casablanca (Morocco)**

**Introduction:** Digestive localization of lymphomas represents 12.5% of all non-Hodgkin’s lymphoma (NHL) and 36% of extra-nodal NHL. They are defined by the lymphoma whose initial presentation includes symptoms related to digestive localization in the absence of superficial lymph node localization previously known. The objective of this study is to clarify the epidemiological, diagnostic and therapeutic aspects of gastrointestinal lymphoma.

**Materials and methods:** We report 91 cases of gastrointestinal lymphomas collected over 10 years (2000-2010) in the Gastroenterology unit of Ibn Rochd university hospital in Casablanca.
**Results:** The mean age was 52 years with a male predominance. The clinical presentation was dominated by weight loss (82.4%), abdominal pain (60%), gastrointestinal bleeding (18.6%), and diarrhea (12%). Upper gastrointestinal endoscopy showed gastric lesions in 92.3% of cases, large folds in the fundus in 13%, ulcerative budding of the fundus in 20.2% of cases, antral mucosal erosions in 28.5% of cases, antral ulcerative budding (11.9%) and extending forms found in 17.8%. Endoscopy was normal in 2 cases (0.02%). Other localizations have been identified: small bowel (4.3%), colon (3.2%) and rectal lymphoma (1%). The staging objectified multivisceral localization in 38.4% of cases classified as stage IV in Musshof classification. The treatment was the eradication of Hp for localized MALT lymphoma and chemotherapy for large B cell NHL or surgical resection for caecal and rectal localization.

**Conclusion:** Gastrointestinal lymphomas are the most frequent extranodal lymphomas; gastric localization is the most common. The diagnostic value of endoscopic investigation is undeniable, supplemented by histology and immunohistochemistry. The staging determines prognosis and treatment strategy.

### 3.23 The gastric malignant non-Hodgkin lymphoma: profile, diagnostic and therapeutics: about 95 cases

**R Lalej, S Nadir, R Alaoui, A Cherkaoui**
Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

**Introduction:** The NHL represents 3% of gastric cancers, defined by a monoclonal proliferation of lymphoid cell lines of phenotype B or T. In 90% of cases it is a MALT lymphoma (B). The gastric NHL poses a problem of diagnosis and treatment.

**Aim:** To report our experience with gastric NHL, and analyze the diagnostic and therapeutic features of this condition. We report a retrospective series of 95 cases of gastric NHL collected at the Gastroenterology unit between 2000 and 2010.

**Results:** The mean age is 47 years with a male ascendancy. The signs are dominated by functional epigastric pain with vomiting in 66.6% of cases, alteration of general condition in 72% of cases. Physical examination objectified epigastralgia in 51 patients (8% of cases), hepatomegaly, splenomegaly, adenopathy; devices in 9.26% of the cases, an epigastric mass in 9.26%, epigastric slurring in 5.55% of the cases and 9.26% of the patients were clinically normal. Esogastroduodenal endoscopy with biopsies confirmed the diagnosis in all cases, with an average of 2 endoscopies per patient; the large B cell lymphoma was most common in 72% of the patients. MALT lymphoma was found in 28% of cases. Helicobacter pylori was present in 44% of the cases. 51 patients were treated by chemotherapy, 12 patients by radical surgery (total gastrectomy) with CTH adjuvant, and 32 patients received an eradication treatment of Helicobacter pylori with an intention of first supplemental CTH in 23 of them.

**Conclusion:** The gastric NHL is a rare tumor representing the most common site of gastrointestinal NHL of unknown etiology but the pathogenic role of Hp is currently shown. It covers several entities with different prognoses and clinical aspects. Its therapeutic management is based on the prognosis group it belongs to, the importance of proper differentiation by immunohistochemistry and molecular biology.

### 3.24 Epidemiological profile of gastroduodenal lymphoma

**Y Jalal, F Bellabdaoui, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui**
Gastroenterology unit, Ibn Rochd University Hospital Centre, Casablanca (Morocco)

**Introduction:** The Gastrointestinal tract is one of the most common sites for extranodal malignant lymphoma, which comprises 1% to 4% of all GI malignancies. Primary gastric lymphoma is an uncommon condition, accounting for less than 15% of gastric malignancies and about 2% of all lymphomas. The aim of our study is to clarify the epidemiological, clinical aspects of gastroduodenal lymphoma.
Materials and methods: We collected 27 cases of gastroduodenal lymphoma over a period of 5 years in the Hepato-gastroenterology unit of Ibn Rochd university hospital centre in Casablanca.

Results: The average age was 48 years, with a sex ratio of 2.8 (males). The clinic was dominated by upper gastrointestinal hemorrhage (37%), abdominal pain (26%) and vomiting (18%). Gastric localization was found in 92% of cases and duodenal in only 8% of cases. Endoscopic lesions were dominated by an ulcerative budding process in 66% of cases and mucosa infiltrated in 26%. The biopsy revealed a large B cell lymphoma in 74% of cases, and MALT lymphomas in 26%.

Conclusion: Lymphoma represents rare gastroduodenal pathology. The clinical manifestations are not specific. The diagnosis is suggested by the endoscopic and histological appearance, and confirmed by immunohistochemistry.

3.25 Delay in etiologic diagnosis of gastric lymphoma in a patient under antiplatelet therapy

H Bendada, W Hliwa, R Alaoui, A Cherkaoui
Hepato-Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: The frequency of gastrointestinal bleeding in patients on antiplatelet therapy is 2%. The gastroenterologist is increasingly faced to such situation requiring endoscopy, raising the problem of risk-benefit ratio. On the one hand, hemorrhagic risks arise when diagnostic and/or therapeutic endoscopy is carried out in a patient with antiplatelet therapy, and on the other hand, the thrombotic risk has to be considered if the treatment is stopped. The purpose of this study was to report a case of delayed diagnosis of upper gastrointestinal bleeding etiology because of antiplatelet therapy, in the Hepato-Gastroenterology unit of the Ibn Rochd Hospital in Casablanca.

Observation: This 65-year old patient was followed up for coronary artery disease, and was treated since 18 months by clopidogrel and acetylsalicylic acid. The history of the disease dates back to 6 months with epigastralgia leading to the indication of gastroscopy, which revealed a large fundic fold. Biopsies were not performed, as her cardiologist prohibited stopping antiplatelet therapy. Treatment to eradicate H. pylori led to clinical improvement. Three months later the patient was admitted to our unit, because of haematemesis. The examination at admission found best hemodynamic constants and mild epigastric tenderness. The blood cell counts showed normochromic normocytic anemia at 7.7 g/dL without thrombocytopenia or leucopenia. Gastroscopy performed at admission revealed the existence of three ulcers in the lower third of the esophagus, and an extensive ulceration of the antro-fundic junction. It was decided to stop antiplatelet drugs, and to give the patient proton pump inhibitors. A week later, and after platelet count and corrected hemostasis, control gastroscopy with biopsies allowed for posing the diagnosis of gastric large cell NHL, B phenotype, CD20+. The patient was addressed to the oncology unit for chemotherapy.

Conclusion: Although the management of patients receiving antiplatelet agents before diagnostic and/or therapeutic endoscopy remains difficult, gastrointestinal bleeding in patients on antiplatelet therapy should not be treated as a simple side effect; this situation requires close collaboration between prescriber and endoscopist who must be aware of this warning sign.

3.26 Helicobacter pylori infection and gastric lymphoma

F Bellabdaoui, FZ Lahdami, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui
Gastroenterology unit, Ibn Rochd University Hospital Centre, Casablanca (Morocco)

Introduction: The stomach is the most frequently involved site for extranodal lymphomas, although primary gastric lymphoma remains a rare disease, representing only 2%-8% of all tumours of the stomach. It is widely accepted that gastric B-cell, low-grade mucosal-associated lymphoid tissue (MALT)-lymphoma is caused by Helicobacter pylori (Hp) infection.

Objective: To study the impact of Hp infection in gastric lymphomas and to clarify the therapeutic approach based on the type of gastric lymphoma.

Materials and methods: This is a retrospective study of 25 cases of gastric lymphoma, collected in the gastroenterology unit of the Ibn Rochd university hospital in Casablanca over 5 years. The diagnosis was sustained by endoscopic and pathologic data.
Results: The mean age was 51 years and the sex ratio M/F was 3:1. Clinical presentations were dominated by upper gastrointestinal bleeding (40%) and epigastric pain (28%). The upper endoscopy showed an ulcerative budding process in 72% of cases and infiltrated mucosa in 28% of cases. The histological study showed lymph epithelial lesions in 28% of cases, chorion infiltration by lymphoid cells in 100% of cases and presence of Hp in 84% of cases. Immunohistochemical study revealed MALT lymphoma in 28% of cases and large B-cell lymphoma in 72% of cases. The staging extension showed in 12% localized MALT stage-I lymphomas, and in 39% stage-IV lymphoma. The treatment was based on Hp eradication therapy for localized MALT lymphoma and chemotherapy for extensive lymphoma.

Conclusion: Gastric lymphomas are rare tumours, which carcinogenesis is induced by Hp infection which implies the possibility of prevention and treatment by simple antibiotic therapy for MALT stage-I lymphoma.

3.27 Gastrointestinal stromal tumors associated with digestive carcinoma

Ferdaous Raissouni, Laïla Amrani, Ilham Serraj, Naïma Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Gastrointestinal stromal tumors (GISTs) are rare neoplasms. Coexistence of GISTs, especially with metachronous or synchronous carcinomas is a phenomenon which has been increasing in the last years. We report 3 cases of GISTs associated with other carcinomas in the gastrointestinal tract.

Case 1: 64-year-old man, presenting with colorectal adenocarcinoma, treated with concomitant chemoradiotherapy, anterior resection of rectum, and adjuvant chemotherapy. After 9 months, he developed a locally advanced recurrent tumor. Tomodensitometry after second-line chemotherapy discovered incidentally an antral gastric mass with imaging. Endoscopic ultrasonographic guided fine needle aspiration was performed. Histopathology revealed a GIST.

Case 2: 60-year-old man presented with dyspeptic symptoms and weight loss. Endoscopy showed an ulcerated budding process of the antrum with submucosal tumor in the subcardial area. Histopathology of ulcerated areas and submucosal tumor biopsies concluded to a poorly differentiated adenocarcinoma in the first tumor and a gastrointestinal stromal tumor in the second one.

Case 3: 65-year-old man presented with gastric pain, vomiting and weight loss. Endoscopy showed an infiltrative ant ulcerated tumor in the antrum with stenosis and subsequent submucosal tumor in the lower esophagus. Histopathology of mucosal biopsies in the gastric tumor revealed a poorly differentiated adenocarcinoma. Endoscopic ultrasonographic guided fine needle aspiration was performed in the submucosal tumor. Histopathology revealed a GIST.

Conclusion: Simultaneous finding of epithelial and stromal digestive tumors raises the question of whether such an occurrence is a simple incidental association or the two lesions are connected by a causal relationship. Coincidence alone could easily account for such an association. The possibility that gene mutations might underlie tumor predisposition in patients with double digestive neoplasia could be discussed.

3.28 Bulboduodenal GIST with liver metastases: a rare and unusual localization

Meriem Bakkar, Mahamoud Galab, Mouna Salihoun, Nawal Kabbaj, Naïma Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Gastrointestinal stromal tumors (GIST) are most frequent mesenchymal neoplasms of the gastrointestinal tract. They mainly develop in the stomach and only 1 to 5% of GISTs are localized in the duodenum. We report an unusual case of bulbar GIST.

Case report: 64 year-old patient presented with a three-month history of epigastric pain, weight loss without any exteriorized digestive bleeding. The abdominal examination revealed a hepatomegaly and an epigastric mass
measuring nearly 5 cm. The oesogastroduodenal endoscopy visualized a circumferential budding ulcer process not narrowing in the duodenal bulb. Anatomopathological examination with immunohistochemistry was positive for CD117 confirming the diagnosis of GIST. The abdomino-pelvic scan showed a bulboduodenal tumor with liver metastases. A therapy with Imatinib was initiated.

Conclusion: There is no previous bulboduodenal case in the literature and duodenum second part seems to be the common site of this rare tumor. Imatinib, a recently developed selective inhibitor of several tyrosine kinases brings a partial response in 65-70% of patients with metastases.

3.29 Gastric carcinoid tumor: about 17 cases

H Seddik, H Massit, F Rouibaa, FZ Elhamdi, A Benkirane
Gastroenterology Unit II, University Military Hospital Mohamed V, Rabat (Morocco)

Purpose: We report 17 cases of Gastric Carcinoids (GCs) and describe the management procedures for patients with GCs.

Methods: 17 patients (7 men and 10 women) were diagnosed with gastric neuroendocrine tumors at our Center. The mean age was 47 years.

Results: Diagnosis was made during upper gastrointestinal endoscopy performed for a variety of clinical reasons, such as abdominal pain (64.7%), gastrointestinal bleeding (11.7%), hepatomegaly (5.8%) or found incidentally during a gastroscopy performed for other reasons (17.6%). Chronic atrophic gastritis was found in 58.8%. Endoscopic appearance of gastric carcinoid tumors was various: multiple small polypoid lesions in the gastric fundus (58.8%), cerebral fundic folds (5.8%) and an ulcerative process (35%). Anatomo-pathological findings were consistent with carcinoid tumor of the stomach. Endoscopic resection was first considered in 58.8% that had a chronic atrophic gastritis. 35% sporadic underwent surgery (radical gastrectomy). Metastatic extension was observed in 5.8% who received systemic chemotherapy.

Conclusions: The clinical approach to Gastric Carcinoids is largely dependent upon type and size of lesions. A lot of controversies still exist about the optimal treatment of GC tumors.

3.30 Upper gastrointestinal tract Kaposi’s sarcoma

Rabia Goubraim, Nawal Kabbaj, Ouafae Lasri, Mohamed Acharki, Laila Amrani, Mouna Salihoun, Zakia Chaoui, M’hamed Nya, Ilham Serraj, Naima Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UMSS, Rabat (Morocco)

Background: Kaposi’s sarcoma (KS) is a multisystem neoplastic disease in which involvement of the gastrointestinal tract is frequent but often asymptomatic. The aim of our study is to determine the etiological patterns and endoscopic aspects of digestive Kaposi Sarcoma.

Patients and methods: All patients with digestive KS diagnosed between 2006 and 2010, were included in this study. Data were collected from endoscopic registries.

Results: 8 cases of digestive KS were identified out of 6,574 gastroscopies (0.12%). Mean age was 43 years with male predominance (7 men and 1 woman). 75% of patients were infected by human immunodeficiency virus (HIV) and 30% of them had also cutaneous localization. Endoscopy revealed red elevated lesions with variable size and number. All patients had gastric lesions localized in the stomach corpus. Two of them had also duodenal Kaposi. Associated mycotic oesophagitis was found in 31% of cases. Histopathological examination of biopsies confirmed KS in all cases.

Conclusion: Kaposi’s sarcoma is a rare disease and digestive localization is often asymptomatic. This sarcoma may be discovered incidentally during gastrointestinal endoscopy in patients with HIV or those with a cutaneous Kaposi. Therefore, upper digestive endoscopy should be systematic in these patients.
3.31 What is the frequency of duodenal cancer?

Ghizlaine Ngatcha, Bouchra Ilyane, Laila Amrani, Mouna Salihoun, Ilham Serraj, Mohamed Acharki, Zakia Chaoui, M’hamed Nya, Galab Mahammoud, Nawal Kabbaj, Naïma Amrani

EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Duodenal cancer is rare. Clinical manifestations are nonspecific and make a diagnosis problem. The aim of this study is to report the endoscopic and histological aspects of these cancers.

Patients and methods: All cases of duodenal cancer were enrolled between January 2006 and October 2010. All patients underwent upper digestive endoscopy and histopathological study of duodenal biopsies, an immunohistochemical study was done as case basis.

Results: 12 cases of duodenal cancer were collected out of 9180 endoscopies, a frequency of 0.1%. Mean age was 55 ± 10.5 years (range 33-70 years) with male predominance (sex ratio: 2/1). All patients presented with epigastric pain associated with vomiting in 41.6%, upper gastrointestinal bleeding in 33.3%, weight loss in 16.6% and jaundice in 8.3%. Endoscopic aspect was an ulcerative budding process in 50%, a sheet polypoid in 25%, ulcerated polyp in 16.6%, and a submucosal process in 8.3%. Histopathological study concluded on adenocarcinoma in 6 cases (50%), lymphoma in 4 cases (33.3%), endocrine tumor in 1 case (8.3%) and GIST in 1 case (8.3%).

Conclusion: The predominant endoscopic aspect of the duodenal cancer is a budding ulcerative process and the most common histological type is adenocarcinoma.

3.32 Carcinome épidermoïde primitif du duodénum: A propos d’un cas

Z Bajaddoub, S Gharaba, A Diffaa, Z Samlani, K Krati

Service de gastro-entérologie, CHU Mohammed VI, Marrakech (Maroc)


Observation : Il s’agit d’une patiente de 60 ans, sans antécédents pathologiques particuliers, hospitalisée pour des épi gastraigies atypiques, associées à des mélaenas avec altération de l’état général. L’examen clinique a montré une masse épigastrique mesurant 5 cm x 4 cm, mal limitée, douloureuse et fixe par rapport aux plans profonds. Une fibroscopie oeso-gastro-duodénale est faite montrant, à la partie distale du deuxième duodénum, un processus tumoral bourgeonnant et infiltrant circonférentiel. Des biopsies ont été réalisées montrant un carcinome épidermoïde peu différencié. Un bilan clinique et paraclinique à la recherche d’une localisation primitive est négatif. Une TDM abdominale dans le cadre du bilan d’extension a montré la présence, en intrapéritonéal et en sous méso colique, d’une masse de 7 cm x 6 cm de diamètre, de contours irréguliers, rehaussée en périphérie. Cette masse infiltre le deuxième duodénum avec présence de multiples adénopathies latéro et sous-pancréatiques céphaliques, lombo-aortiques. On ne note ni carcinose péritonéale ni nodules hépatiques. La prise en charge a consisté en une chimiothérapie palliative vu le stade avancé mais la patiente est perdue de vue.

Conclusion : La localisation d’une tumeur épi dermoïde primitive duodénale est exceptionnelle. Des localisations métastatiques ont été rapportées. L’endoscopie digestive joue un rôle primordial dans le diagnostic. L’aspect est variable pouvant aller d’un aspect de masse ulcé rée et volumineuse à des ulcérations à bord nécrotique ou de multiples nodules de l’antre et du duodénum.
3.33 Duodénum : localisation rare des adénocarcinomes (à propos de deux cas)

S Benidamou, S Gharaba, Z Samlani, A Diffaa, K Krati
Service d’hépato-Gastro-Entérologie, CHU Mohamed VI, Marrakech (Maroc)

Introduction : L’adénocarcinome duodénal est une tumeur rare, il constitue < 1 % des cancers digestifs. L’absence de spécificité de sa symptomatologie explique le retard diagnostique et le mauvais pronostic de ces tumeurs. Nous rapportons deux cas présentant un adénocarcinome duodénal.

Observations 1 : Patient âgé de 73 ans, n’ayant pas d’antécédents pathologiques particuliers, présentant un ictère choléstatique associé à des vomissements bilieux évoluant depuis un mois dans un contexte d’altération de l’état général et chez qui l’examen clinique avait montré un ictère cutanéo-muqueux avec une sensibilité épigastrique. Une fibroscopie a été réalisée montrant un rétrécissement circonférentiel du 2ème duodénum dont la biopsie avait conclu à un adénocarcinome peu différencié. Dans le cadre du bilan d’extension, une TDM abdominale a été faite objectivant un épaississement hémici-résectionnel de la paroi des 2ème et 3ème duodénums, avec une importante infiltration de la graisse pariétale, infiltration du bas cholédoque avec dilatation des voies biliaires intra et extra hépatiques, multiples lésions nodulaires hypodenses hépatiques. La prise en charge avait consisté en une dérivation.

Observation 2 : Patient, âgé de 38 ans, sans antécédents pathologiques particuliers qui a présenté depuis 9 mois des épigastralgies atypiques évoluant dans un contexte d’altération de l’état général et chez qui l’examen clinique avait montré un empâtement épigastrique. La FOGD a objectivé une tumeur polypoïde du 2ème duodénum dont la biopsie a conclu à un adénocarcinome indifférencié. La TDM a montré un processus tumoral de DII avec infiltration de la racine du mésentère, la région cœliaque et la région rétro péritonéale avec de multiples adénopathies. Le traitement a consisté en une gastro-entéro-anastomose palliative.

Conclusion : L’adénocarcinome du duodénum est une pathologie rare mais non exceptionnelle, d’où l’intérêt d’un diagnostic précoce pour un meilleur pronostic.

3.34 Bulbar MALT lymphoma: a case report

E Sobkeng Goufack1, M Bouketouche2, S Dao3, S Carton4, S Legrand2, A Youssef2, R Garidi
1 Hepatogastroenterology Unit, 2 Hemato-Oncology Unit, 3 Radiology Unit, 4 Pathology Unit, Saint Quentin Hospital (France)

Introduction : Malignant lymphoma of mucosa-associated lymphoid tissue (MALT) usually develops in the stomach, and less than 30% in the small intestine. Primary duodenal MALT lymphoma is uncommon, and bulbar location is exceptional. We report an unusual case of bulbar MALT lymphoma characterized by the absence of Helicobacter pylori infection, microscopic ileo-colic extension, extra digestive lymph node metastases, chemotherapy gastrointestinal morbidities-induced and their management.

Case report : A 67-year-old man, smoking weaned, was followed for hemolytic anemia. He had no gastrointestinal bleeding and no transfusion history. He presented a weight loss of 3 kg. Thoraco-abdomino-pelvic computed tomography scan showed mediastinal, celiac-mesenteric and retroperitoneal lymph nodes. Upper endoscopy noted a tumor lesion of bulb anterior surface. It was otherwise normal. Pathological study combined with immunohistochemistry of biopsies concluded to non-Hodgkin’s B cell malignant lymphoma. Helicobacter pylori search was negative. Ileo-colonoscopy noted two colonic small polyps which were resected. Histology of ileo-colonic biopsies found focal MALT lymphomatous infiltration. Biopsy of one lymph node concluded to similar pathology. Patient received six cycles of chemotherapy according to the R-CHOP protocol with lesions stability. Outcome was marked by vomiting and persistent diarrhea. Endoscopic assessment and biopsies found a candida esophagitis and acute ulcerative colitis. Symptoms regressed under proton pump inhibitor, antifungal and probabilistic antibiotics therapy. Chemotherapy has been reduced by monotherapy.

Conclusion : Bio-chemotherapy remains the standard treatment for invasive forms of MALT lymphoma. Vomiting and diarrhea are usually functional during chemotherapy, but may also be the result of organ damage as is the case of our patient. We underline the importance to realize endoscopic assessments to look for organ damage induced by immunosuppression secondary to chemotherapy.
4 SMALL BOWEL

4.1 Small bowel tumors: what is the contribution of video capsule endoscopy?

Jihane Achour, Ilham Serraj, Laila Amrani, Naïma Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Background:** Intestinal tumors represent less than 5% of digestive tumors and are difficult to diagnose because of the limitations of intestinal investigations. The aim of the present study was to evaluate the frequency of intestinal tumors among obscure digestive bleeding (ODB) patients.

**Materiel and methods:** Consecutive patients with ODB were prospectively enrolled. VCE was performed after an entero-CT scanner. Explorations with esogastroduodenoscopy and colonoscopy were normal.

**Results:** 77 patients (46 males, 31 females) were examined by VCE. 18 patients (15 males, 3 females) were diagnosed with small bowel tumors, located in the jejunum (8 cases) and ileum (8 cases) and 2 cases of diffuse lesions. The frequency of these tumors among ODB patients in our study is 23%.

Clinical characteristics were anemia in 4 cases, melena in 12 cases. VCE was performed in 2 patients for the staging of liver metastasis of carcinoid origin, and 2 times for polyposis intestinal staging. The mean duration of symptoms before the tumor was diagnosed was 6 months. Pathological examination concluded to a stromal tumor (7 cases), adenoma (4 cases) adenocarcinoma (2 cases) carcinoid tumor (2 cases), intestinal polyposis (2 cases) and one case of T lymphoma.

**Conclusion:** The prevalence of intestinal tumors appears to be higher than expected in patients with ODB investigated by VCE. VCE is superior to other intestinal investigations to detect these tumors, as it allows for the examination of the entire small bowel and the detection of small lesions.

4.2 Small bowel capsule endoscopy findings in Sudanese patients

Salih Fedail Suliman, Eltayeb Abdo Abdelmunem
Fedail Hospital National Center for Gastrointestinal and liver diseases (Sudan)

**Objectives:** To study the efficacy of capsule endoscopy in diagnosis of small bowel pathology in Sudanese patients.

**Aims and methods:** Capsule endoscopy (CE) is a novel method and gold standard for diagnosing small bowel pathology. The significant clinical value of CE over other modalities in obscure GI bleeding is shown in several meta analyses [1-2] as well and in diagnosing IBD CE showed higher sensitivity for assessing small bowel mucosal lesions compared to other imaging techniques [3-5]. CE was performed in 46 patients in private hospital (Fedail hospital and Ibn sina hospital in Khartoum), using Mirocam capsule endoscopy. Patients were fasting 12 hours before procedure, 2 bags of polyethylene glycol electrolyte solution were used for bowel preparations. Patient data were reviewed using Miroview software.

**Results:** Total number of patients is 46 patients, males: 29 females: 17, mean age: 53, the main indication was obscure Gastrointestinal bleeding (OBGI): 16 cases (35%), then small bowel diarrhea: 9 (20%), IDA: 7 cases (15%), abdominal pain: 6 (13%), inflammatory bowel diseases (IBD): 4 (9%) and small bowel tumour: 3 (6%) Non Responder Coeliac: 12 cases, overall diagnostic yield was 61% (28 patients), failure to reach the ileocaecal valve occurred in 4 patients who proved to have stricture. After operated, histopathology confirmed the diagnosis of Crohn’s in 2 of them and carcinoid in the other 2; most common findings were angiodysplasia in 8 patients, suspicion of Crohn’s disease in 5 patients, suspicion of coeliac disease in 4 patients, tumors in 4 patients.

**Conclusion:** CE was very helpful diagnostic tool affecting patient management.

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4.3 Malignant tumours of the small bowel: epidemiology, diagnosis and treatment

S Raissouni, G Rais, H Abahssain, H Mrabti, H Errihani
Medical oncology unit, National Institute of Oncology, Rabat (Morocco)

Background: Malignant tumours of the small bowel are rare with heterogeneous pathology. They represent only 5% of all tumours of the digestive tract. Their prognosis is poor because of delayed diagnosis and treatment difficulties. We report clinical, pathological and treatment characteristics of patients treated in the National Institute of Oncology in Rabat for malignant tumours of the small bowel.

Patients and methods: This is a retrospective study concerning 27 patients diagnosed and treated for malignant tumour of the small bowel in our institute from January 1998 to December 2002.

Results: The median age was 6 years old (range: 15-70), there were more men than women with a sex-ratio of 3. The median time to diagnosis is 6 months (0-96 months), abdominal pain was the main symptom at presentation in 77.8% of cases, abdominal mass in 37% and bowel obstruction in 37%. Endoscopy was performed in 6 patients, digestive pacification in 6 patients and CT scan in 60% of cases. Pathological examination shows 63% of non hodgkinian lymphoma, 14.8% of adenocarcinoma, 7.4% of stromal tumours, carcinoid tumours and sarcoma. 20 patients underwent surgery and 14 received chemotherapy. Local recurrence was observed in 7 patients and metastatic one in 6 patients.

Conclusion: Malignant tumours of the small bowel are rare; the diagnosis is usually delayed and often limits therapeutic options. Clinicians should be aware of minimal gastrointestinal symptoms.

4.4 Revelation of malignant degeneration of a Peutz-Jeghers syndrome

A El Khader, I Sadeq, W Hliwa, A Alaoui, A Cherkaoui
Hepato-Gastroenterology unit, Hospital university centre, Ibn Rochd, Casablanca (Morocco)

Introduction: Peutz-Jeghers Syndrome (PJS), also known as hereditary intestinal polyposis syndrome, is an autosomal dominant genetic disease characterized by the development of benign hamartomatous polyps in the gastrointestinal tract and hyper pigmented macules on the lips and oral mucosa. This syndrome was histologically confirmed. Endoscopy is of great diagnostic and therapeutic value.

Purpose: To study Peutz-Jeghers Syndrome and to lay the emphasis on the risk of gastrointestinal and extra intestinal malignancy and the difficulty of its management.


Observation: Patient aged 40, presented in 2007 diffuse abdominal pain. Abdominal scan showed wall thickening of the 1st jejunal loop. Laparotomy and histology found double tumour localization: 1) jejunum: colloid carcinoma infiltrating mucosal pan parietal ulceration; 2) terminal ileum: high-grade villous tumour dysplasia. 6 months later, she presented with abdominal distension. Abdominopelvic scan revealed a centro-pelvic mass, ascites and retroperitoneal lymph flow. Total hysterectomy was performed including both annexes with left iliac lymph node dissection. Histology found mucoid degeneration on the right uterine horn, ovary and on 1 lymph node out of 4. Colonoscopy revealed multiple recto-colonic polyps and a polyp was biopsied confirming Peutz-Jeghers. The genetic study is under way. Gastroscopy showed multiple polyps, esophageal, fundic and duodenal ulcers. Video capsule found multiple duodenal
and small bowel polyps. In 2009, the patient had abdominal pain; abdominal scan revealed a large intestinal mass measuring 8x6x5 cm spotted in places, with infiltration of surrounding fat and necrotic cast of celiac-mesenteric, lateral cava, para-aortic lymph node. Faced with the suspicion of degeneration at the level of the caecum, the patient was proposed for surgery but due to a major alteration of general condition, she died several weeks later.

**Conclusion:** Peutz-Jeghers polyposis is a rare digestive genetic transmission. Management is heavy, including multiple clinical and paraclinical surveillance. The risk of degeneration of polyps and extra intestinal cancers gives this disease a very dark prognosis.

### 5 COLON – RECTUM

#### 5.1 The prevalence of degenerated colonic polyps

**FZ Lahdami, Y Jalal, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui**

Gastroenterology Unit, Ibn Rochd University Hospital Centre, Casablanca (Morocco)

- **Introduction:** Adenomatous polyps are tumours of benign neoplastic epithelium with variable potential for malignancy. The adenoma-carcinoma sequence is well known and the probability of carcinomatous transformation increases with polyp size, especially when they are larger than 1 cm, they have a villous component, there are many polyps or the age at diagnosis is over 60 years.

- **Purpose:** To determine the prevalence rates of degenerated polyps on a series of endoscopic recto-colic polyps and to specify the treatment of a degenerated polyp through our experience and a literature review.

- **Patients and Methods:** From January 2007 to November 2010, 130 patients with recto-colic polyps were collected. We identified the prevalence and endoscopic characteristics of recto-colic polyps which histology concluded to a carcinoma.

- **Results:** The mean age of patients was 53 years with a sex ratio of 1. The indications for colonoscopy were dominated by gastrointestinal bleeding (34.7%), diarrhea (17.3%) and in the staging of tumours (11.3%). Twelve degenerated recto-colic polyps (9.2%) were collected; anatomopathological analysis revealed 2 colloid mucous carcinomas and 10 invasive adenocarcinomas. The polyps were pedunculated in 5 cases, sessile in 7 cases. Location of the polyps were rectal in 6 cases, sigmoid in 2 cases, left colon in 2 cases and right colon in 2 cases. The average size of polyps was 12 mm (4-20 mm).

- **Conclusion:** The prevalence of malignant polyps in series of endoscopically removed polyps is between 0.2% and 11%. Currently the number of cases in which malignant polyps are removed is increasing due to screening programmes. The National Polyp Study has demonstrated that colonoscopic removal of adenomatous polyps significantly reduces the risk of developing colorectal cancer.

#### 5.2 Colorectal carcinoma in patients younger than 45 years of age: about 97 cases

**R Gomina, M Mbounja, W Badre, M Tahiri, F Haddad, A Bellabah, R Alaoui, A Cherkaoui**

Gastroenterology Unit, Ibn Rochd Hospital, Casablanca (Morocco)

- **Introduction:** Colorectal cancer (CRC) is the 2nd cancer in the USA and Europe. CRC in young adults (15-45 years) is a rare affection, which has a bad prognosis. Its frequency is 4% in France and 59% in North Africa.

- **Aim:** To study the epidemiologic, anatomo-clinical, and therapeutic aspects of CRC in young adults.

- **Materials and methods:** The study was retrospective over a period of 16 years (1995-2010). The average age is 32 years (15-45 years). All patients had lesion assessment, locoregional and general extension included a digital rectal exam, colonoscopy with biopsy and anatomo-pathological study supplemented by ultrasound and abdominopelvic CT.
Results: 97 patients were collected in the study, with a sex-ratio of 1.5. The CRC represents 30.6% of digestive cancer and CRC in young adults represents 35.4% among all CRC. The frequency of precancerous states was 17.5% including 7 cases of polyps, 3 cases of familial adenomatous polyposis (FAP), 3 cases of ulcerative-colitis, 3 cases of colorectal Crohn’s disease, 1 case of HNPCC syndrome and 1 case of family CRC. The average time from diagnosis is 9 months. Only one patient was diagnosed through family screening. Clinical signs were dominated by abdominal pain: 90.5%, rectal bleeding: 40.5%, and rectal syndrome: 31%. The tumour was located in the rectum: 60.4%, the sigmoid colon: 20.8% and in the ascending colon: 10%. The histological study has found 67 cases of liberkhunian differentiated adenocarcinoma (ADK), 20 cases of mucous coloids, 8 cases of signet ring cell ADK and 2 cases of high-grade dysplasia. The cancer was discovered at an advanced stage (Dukes stage C 25.3% and D 57.1%). The genetic study was performed in only one patient who met the Amsterdam criteria II and showed a deletion at exon 6 of MLH1.

Conclusion: The prognostic and therapeutic improvement in colorectal cancer requires a family screening, a genetic analysis and an early diagnosis, when predisposing antecedents exist.

5.3 Clinical and molecular characterization of colorectal cancer in young Moroccan patients: HNPCC

Amal Benmoussa1, Wafaa Badre2, Monic Mbounja2, Monica Pedroni3, Soumia Zamiati4, Latifa Badre5, Carmela Digregori6, Hassan Jouhadi7, Abedallatif Benider7, Maurizio Ponz De Leon3, Sellama Nadifi1

1 Laboratory of Medical Genetics, Faculty of Medicine and pharmacy Casablanca; 2 Gastroenterology Department, CHU Ibn Rushd Casablanca; 3 Department of Internal Medicine, University of Modena and Reggio Emilia (Italy); 4 Department of Pathology, CHU Ibn Rushd Casablanca; 5 Laboratory of Pathology, My Driss, Casablanca; 6 Department of Pathology, University of Modena and Reggio Emilia (Italy), 7 Department of Oncology, CHU Ibn Rushd, Casablanca (Morocco)

Purpose of the study: Our study aimed to study the frequency and molecular characteristics of the HNPCC in Moroccan early onset colorectal cancer patient.

Methodology: The population studied is 70 patients. The criteria for inclusion of patients in this study were to develop a colorectal cancer before the age of 50 and the exclusion of FAP. We started by searching for microsatellite instability, first by IHC of 3 MMR proteins (MLH1, MSH2, and MSH6) and confirmation by using four monomorphic markers (BAT 25, BAT 26, NR 21, and CAT 25).

Clinical results: The average age of these patients was 41.47 years old (18 to 50 years). Sixty percent of patients were women. The mean age of the women patients and men patients was respectively 41 and 42 years. The cancer was located in rectum in 46% cases. The right colon was affected in only 16 patients (24%), and the left colon in 44.44%. All cancers were adenocarcinoma in histological examination poorly differentiated in 15%, mucinous adenocarcinomas and signet ring cells in 16.4%.

Molecular results: We found 15% of instability (10/70). The loss of expression affected more protein MLH1 with 8 cases versus 2 cases of altered MSH2. This result is very important and confirms the interest of our study.

Conclusion: Whatever the origin – hereditary or sporadic – of this microsatellites instability, testing for MSI is important. No one of the 70 patients did fulfill the Amsterdam criteria II and so clinically they were considered as sporadic cancers. But 15% of microsatellites instability is too much, and allows us to think that the young age of patients with colorectal cancer is strongly associated with heredity. So patients with microsatellite instability should benefit directly from a genetic counseling. This will help us better manage these patients and also prevent other cancers in the family.
5.4 Profil épidémiologique des cancers coliques : à propos de 38 cas

S Gharaba, S Benidamou, Z Samlani, A Diffaa, K Krati
Service d’hépato-Gastro-entérologie, CHU Mohamed VI, Marrakech (Maroc)

Introduction : Le cancer colique représente 25 % de l’ensemble des cancers digestifs en France. Chaque année, 1 500 décès lui sont imputables. Le polype adénomateux est le facteur prédisposant essentiel.

Matériel et méthodes : Il s’agit d’une étude rétrospective intéressant 38 cas des cancers coliques colligés au service de gastro-entérologie sur une période allant de 2005-2009.

Résultats : L’âge moyen est de 57 ans, le sex ratio est de 22 femmes pour 16 hommes. Le délai moyen entre les premiers symptômes et le diagnostic est de 7 mois. Les signes révélateurs sont : les douleurs abdominales (84,2 %), l’altération de l’état général (76,3 %), l’hémorragie digestive (44,7 %), des troubles du transit (44,7 %) et une masse abdominale (36,8 %). La localisation sigmoïdienne est la plus fréquente (44,7 %), suivie du colon droit (23,6 %), l’angle colique droit (13,1 %). Cinquante-cinq pour cent des tumeurs sont sténosantes. Les formes ulcéro-bourgeonnantes représentent 34,2 % et bourgeonnantes 31,5 %. L’adénocarcinome moyennement différencié est le plus fréquent (57,8 %). Un bilan d’extension est réalisé : l’échographie abdominale (73,6 %), la radiographie thoracique (76,3 %) et la TDM abdorino-pelvienne (97,7 %). les ACE sont positifs chez 30 % des cas. Vingt-trois patients ont bénéficié d’un acte chirurgical dont 19 curatif. Vingt-sept cas ont reçu une chimiothérapie dont 19 est palliative. Le recul moyen est d’une année.

Conclusion : Le cancer colique représente 25 % de l’ensemble des cancers digestifs en France. Ce sont des tumeurs précédées habituellement par l’adénome, d’où l’intérêt d’envisager une stratégie préventive. La survie globale à 5 ans dépasse rarement 50 %. La chirurgie est principalement curative ; la chimiothérapie adjuvante permet de traiter la forme généralisée.

5.5 Epidemiological profile of colon cancers at the Mohammed VI University Hospital of Marrakech

S Benidamou¹, K Charaf¹, Z Samlani¹, A Diffaa¹, K Krati¹, FJ Ghaimi², B Belaabidiya²
¹ Department of Hepato-Gastroenterology; ² Department of Pathology, Mohammed VI University Hospital, Marrakech (Morocco)

Introduction: Colon cancer accounts for 25% of all digestive cancers in France. Every year, 1,500 deaths are attributable to colic cancer. The survival at 5 years is little more than 50%. The adenomatous polypl is in the main proenoplastic lesion. The lower endoscopy plays a key role in diagnosis and treatment. The surgery is primarily curative for resectable tumors and metastases.

Purpose of work: To study the endoscopic profile of colonic tumours collected at the Mohammed VI University Hospital of Marrakech.

Materials and methods: We conducted a retrospective study of 118 cases of colic cancers in our department over a period of 4 years (from 2005-2009).

Results: The average age was 65 years (45-90 years). The sex ratio is 1.37 with female predominance. The average time between first symptoms and diagnosis was 7 months. The majority of tumours were located in the sigmoid colon (14.7%) and right colon (44.7%). Endoscopic aspect was variable. We found stenosis in 55%, ulcerative colitis in 34.2%, budding lesion in 31.5%, ulcers in 26.3% of cases and infiltrating tumour in 7.8% of cases. Adenocarcinoma
moderately differentiated type was the most common (57.8%) followed by adenocarcinoma, well differentiated (21.05%). A staging was performed in all patients according to the TNM classification. A cure was initiated in 47.3% while it was palliative in 52.7%. On a decline average of 1 year, outcome was good in 10 cases, 23 cases were lost of view and one case of recurrence after 3 years was noted.

**Conclusion:** Although frequent, colon cancers are the third cause of cancer death worldwide. The lower endoscopy is the examination reference in the diagnosis of colonic tumours. Screening and monitoring of colonic polyps and the population at risk is needed to avoid malignant degeneration.

### 5.6 Diagnostic and prognostic aspects of rectal cancer in patients under 40 years old

**L Zaidi, S Nadir, R Alaoui, A Cherkaoui**
Hepatogastroenterology Unit, CHU Ibn Rochd, Casablanca (Morroco)

**Introduction:** Rectal cancer is the most frequent digestive cancers. It has always been considered as disease of the old patient; its occurrence in younger patients under 40 years old is rare and is deemed a bad prognosis.

**Aim:** To describe the epidemiological characteristics of rectal cancer in young patients under 40 years old and provide results on the treatment modalities and prognosis of this cancer.

**Materials and methods:** Our study concerns 57 patients admitted to the gastroenterology department of Casablanca during a period of 12 years from January 1998 to December 2009.

**Results:** There were 31 women and 26 men, mean age 32 years old and ranged from 16 to 40 years old. Three precancerous conditions were systematically searched: ulcerative colitis (2 cases), Crohn’s disease (1 case), familial adenomatous polyposis (4 cases). The average time between symptom onset and diagnosis was 6 months. Functional signs were dominated by rectal bleeding (76%). Histologically, a Lieberkuhnian adenocarcinoma was found in 37 cases (65%), mucosal colloid carcinoma in 11 cases (19%), isolated cells carcinoma in 6 cases (10.5%), carcinoma in situ in 2 cases (3.5%), rectal lymphoma in one case (2%). 16 cases (28%) were metastatic at diagnosis. The therapeutic abstention was acceptable at 8 patients (14%) in front of the advanced stage of cancer, curative surgical resection was performed in 20 cases (35%), combined radiotherapy and surgery in 22 cases (39%), 3 cases (5%) underwent a palliative procedure, 3 (5%) patients refused surgery they were treated with combination radio-chemotherapy, patients with rectal lymphoma was treated with chemotherapy. The survival in 5 years is only 10%.

**Conclusion:** The prognosis of rectal cancer in young patients under 40 years old is bad. It is aggravated by a frequent aggressive of the histological forms and an often late diagnosis. In our context a question is raised: is the frequency of rectal cancer in young Moroccan the result of the young age of the population or are there genetic or environmental features that remain to be defined?

### 5.7 Colon cancer: report of 84 cases

**S Eddeghai, A Farouk, A Diffaa, Z Semlani, K Krati**
Hepatogastroenterology unit, Qadi Ayyad university, Mohamed VI university hospital Marrakech (Morrocco)

Colonic cancer is the second leading cause of cancer deaths. Adenocarcinomas represent 95% of cases.

**Purpose:** Our work aims to analyze the epidemiological, clinical and diagnostic modalities and treatment of colon cancer.

**Patients and methods:** This is a retrospective study over 5 years (2004-2008), of 84 cases with colon cancer collected in the following units: gastroenterology, gastrointestinal surgery and oncology of CHU Med VI, Marrakech.
Results: The mean age of patients was 54 years with extremes of 90 and 16 years, with a sex ratio of 1.8 (55 men for 29 women). The most frequent methods of revelation were: intestinal obstruction in 29 cases, abdominal pain associated with gastrointestinal bleeding most often or recent changes in transit in the other case. The most common site is the sigmoid (40 cases) followed by the right colon with 23 cases. The use of endoscopy for diagnosis was systematic. The staging based on CT abdominopelvic and chest X-rays. Management is a multidisciplinary discussion. The prognosis remains disappointing because our patients are often seen too late.

Conclusion: A better understanding of factors predisposing to colorectal cancer (constitutional or acquired) should improve their prevention and allow for an earlier detection.

5.8 Colorectal cancer: study of 70 cases

M Slaoui, I Mechale, O Ahmadi, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui
Gastroenterology Unit, Ibn Rochd University Hospital Centre, Casablanca (Morocco)

Introduction: Colorectal cancer is the 3rd cancer worldwide. It is a real public health problem because of its frequency and severity. The aim of our study is to describe the epidemiological profile and stages of colorectal cancer.

Methods: We realize a retrospective study of 70 cases, which are collected in the Gastroenterology unit during 4 years (2007-2010).

Results: We collected 70 cases. The average age of patients was 60 years (range 18-83 years) with a sex ratio of 1.25. The proportion of colorectal cancer occurring before the age of 40 years was 15.9%. The mean delay of treatment was 7 months. Family antecedents of colorectal cancer were found in 2 cases. The principal localization was the rectum (57.2%) followed by the rectosigmoid (12.7%), sigmoid colon (10%), right colon (8.5%), transverse colon (4%) and left colon (1.6%). The polyps were associated with colorectal cancer in 19% of cases. The histology was dominated by adenocarcinoma found in 90.5% of colorectal cancers. The staging showed locoregional extension in 36.5%, distant metastasis in 22.2% of cases, peritoneal carcinomatosis in 22.2% and absence of metastases in only 19.1% of cases.

Conclusion: Colorectal cancers are still supported at a late stage with locoregional and general extension. It is therefore important to develop methods of cancer screening to detect lesions preceding development of colorectal cancer, and it is capital to practice a colonoscopy for patients with alarm symptom.

5.9 Characteristics of colorectal cancer in a digestive endoscopy unit: Experience of Mongi Slim University Hospital, La Marsa, Tunis (Tunisia)

H Romdhane, R Ennaifer, R Hfaiedh, H Ben Nejma, N Belhadj
Gastroenterology Department, Mongi Slim University Hospital, La Marsa, Tunis (Tunisie)

Background: Colorectal cancer is the third cause of death by cancer in the world. The aim of our study is to identify the epidemiologic characteristics of colorectal cancer in our endoscopic unit.

Patients and Methods: We conducted a retrospective study during 3 years (from October 31st 2007 until October 31st 2010). Data were collected from colonoscopic reports. We analyzed age, sex, clinical presentation as well as endoscopic findings.

Results: 249 colonoscopies were performed during this period of 3 years. Prevalence of colorectal cancer in our endoscopic study was 12.4%. The average age of our patients was 56.4 years (extremes: 23-83 years). Males represented the majority of our population (61.2%). 19.3% of our patients were less than 50 years old. Colic cancer represents about the two thirds (64.5%). Right colon localization was observed in 40% of cases. Rectal tumors
were localized in the medium rectum in 45.4% of cases, in the lower rectum in 36.4% of cases and in the upper rectum in 18.2% in cases. Recent transit troubles were the most described symptoms among our patients (41.9%). Rectal bleeding and abdominal pain were observed respectively in 35.5% and 19.3% of cases. Colorectal cancer with hepatic metastases was encountered in 16.1% of cases. A paraneoplastic deep venous thrombosis of lower limbs was observed only in one patient. One or multiple polyps were discovered at the time of diagnosis of colorectal cancer in 29% of patients. Less than 10 polyps were observed in 22% of cases. One case of familial adenomatous polyposis and one case of attenuated familial adenomatous polyposis were recorded.

**Conclusion:** In our study, we found some epidemiologic characteristics:
- A high prevalence of right colon localization;
- A relatively young age at the diagnosis;
- A high prevalence of advanced stages and metastatic forms of the disease.

In spite of the retrospective type of our study and its small sample, we can suspect a genetic predisposition underlying these cancers. These data stress the usefulness of implementing screening programs at a wide scale.

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### 5.10 Colorectal adenomatous polyp: endoscopy and histological characteristics

**Jihane Achour, Laïla Amrani, Ilham Serraj, Mahmoud Galab, Zakia Chaoui, Mohamed Achariki, M’hamed Nya, Mouna Salihoun, Nawal Kabbaj, Naima Amrani**

**EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)**

**Introduction:** Adenomatous polyp is a precursor of colorectal cancer (CRC), its detection and removal has reduced the incidence of CRC. The aim of our study was to assess its prevalence in an unselected population and to correlate histology and endoscopy aspect.

**Patients and Methods:** 201 adenomatous polyps were found in 112 patients over a period of 6 years. 60 patients (53.5%) were male and 52 (46.5%) were female. Median age was 56 years. Indications of colonoscopy were: screening for CRC in 37 patients (33%), rectal bleeding in 24 patients (21%), chronic diarrhea in 18 patients (16%), abdominal pain in 19 patients (17%), constipation in 11 patients (10%), iron deficiency anemia in 5 patients (4.4%) and dysenteric syndrome in 3 patients (2.6%). Resection of the polyps was performed by polypectomy or endoscopic mucosal resection.

**Results:** Polyps were located in rectum in 26.8%, in sigmoid in 21.5%, in left colon in 15%, in transverse colon in 8.5%, in right colon in 17% and in caecum in 8%. One polyp was located in the ileocecal valve and 4 polyps were located in the colorectal anastomosis. 166 polyps (82.6%) were sessile, 23 polyps (11.7%) were pedunculated and 12 polyps (6.4%) were plans. The size of adenomas ranged from 0.5 cm and 2 cm. 30% of adenomas measured more than 1 cm. Adenomas were unique in 60% and multiple in 40%. 174 polyps (86.5%) were tubular, 19 were tubulovillous (9.5%), 6 were villous (3%) and 2 polyps were serrated. Synchronous cancer was diagnosed in 2.5%.

**Conclusion:** The average age of discovery of adenomatous colorectal polyps in Moroccan patients is 56 years with a predominant tumor location in the rectum and sigmoid. Most of these adenomas are tubular and are less than 1 cm. The detection of adenomas and resection should always be practiced which remains an efficient mean of CRC prevention.

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### 5.11 Ileocolic intussusception in adult caused by colic adenocarcinoma

**Hanane Rafi, Mouna Salihoun, Zakia Chaoui, Nawal Kabbaj, Naima Amrani**

**EFD-Hepatogastroenterology, Ibn Sina Hospital, UM5S, Rabat (Morocco)**

**Background:** Intussusception in adults is a different entity from that observed in newborns, it’s usually secondary to a definable lesion. Ileocolic invagination is mostly caused by a benign lesion and uncommonly by a colonic cancer. We present a recent case of an asymptomatic ileocolic intussusception complicating colic adenocarcinoma.
Case report: 69 year-old woman, presented with a 3-month history of abdominal pain and weight loss. Clinical examination was normal. Ultrasonography revealed a mass in the left iliac fossa. Colonoscopy showed an impassable stenosis with a budding ulcerative tumor in left colon surmounted by a bead of intussusception. Histopathological study of biopsies concluded to well-differentiated adenocarcinoma. Thoraco-abdomino-pelvic scan showed ileocolic intussusceptions secondary to left colon tumor without metastasis. Surgery is scheduled for this patient.

Conclusion: Ileocolic intussusception caused by colonic adenocarcinoma is rare. Colonoscopy as well as the imagery is the useful preoperative diagnostic method. Surgical therapy has to be quick in order to be performed in good conditions.

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5.12 Mélanome anorectal primitif: trois nouveaux cas

Z Samlani¹, Z Bajaddoub¹, A Diffaa¹, K Krati¹, K Rabbani², A Finech², T Aboulhassan³, A Samkaoui³

¹ Service d’hépato gastro-entérologie, ² Service de chirurgie viscérale, ³ Service d’anesthésie-réanimation, CHU Mohammed VI, Marrakech (Maroc)

Introduction : Le mélanome anorectal est une tumeur maligne primitive rare (0.2 à 3 %), découvert le plus souvent à un stade tardif. L’endoscopie joue un rôle majeur dans le diagnostic positif en montrant son aspect assez typique de tumeur pigmentée mais qui n’est pas toujours présent. Son pronostic est sombre, lié à la précocité du diagnostic.

Patients et méthodes : Nous rapportons trois observations de mélanome anorectal primitif recrutées au service de gastro-entérologie du CHU Mohammed VI de Marrakech.

Résultats : Nos trois patients âgés de 50, 65 et 70 ans, avaient consulté pour des rectorragies avec altération de l’état général. L’examen proctologique a permis de mettre en évidence un processus tumoral bourgeonnant de couleur rosée avec quelques zones noirâtres, étendu de 1 à 7 cm de la marge anale sur la paroi latérale du rectum dans un cas, et une tumeur périanale envahissant le vagin de couleur rosée avec quelques zones bleuâtres dans le deuxième cas, et un processus noirâtre anorectal dans le troisième cas. La TDM abdomino-pelvine a montré un épaississement tumoral du rectum infiltrant la graisse péri rectale sans atteinte des organes de voisinage. Le reste du bilan d’extension réalisé était négatif, notamment à la recherche de métastases ou d’autres localisations cutanées et rétiniennes. Le traitement a été une amputation abdomino-pelvine, étant donné l’étendue de la tumeur et l’envasissement de la graisse péri rectale. Des métastases hépatiques ont été découvertes en per opératoire chez une patiente. L’étude anatomopathologique a confirmé le diagnostic avec la positivité de PS 100 et HMB45.

Conclusion : Nous insistons à travers ces observations sur l’impérativité de la précocité du diagnostic et de la reconnaissance endoscopique de ce type de tumeur qui n’est pas toujours facile quand la tumeur n’exprime pas la mélanine, et que les biopsies sont contre-indiquées et considérées comme donnant un coup de fouet à l’évolution de la tumeur.

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5.13 Primary anorectal malignant melanoma: usefulness of magnetic resonance imaging (MRI)

H Massit¹, M Edderaï², H Seddik¹, FZ Elhamdi¹, A Benkirane¹

¹ Gastroenterology Unit II; ² Radiology Unit, University Military Hospital Mohamed V, Rabat (Morocco)

Background: Primary anorectal malignant melanoma is a fairly uncommon but highly malignant disease. We hereafter describe a case of primary malignant melanoma of the anal canal. In this case, magnetic resonance imaging (MRI) was found to be useful for diagnosing the melanotic melanoma.

Case report: A 45-year-old Moroccan man presented with bleeding and perineal pain during defecation. Colonoscopy revealed an irregularly surfaced, partly pigmented mass, on the anal canal. Endoscopic biopsy revealed an anorectal malignant melanoma. On MRI, the tumor showed low signal intensity with a high signal content on T1WI with a pelvic coil. On T2WI, this tumor showed mixed intensity. The depth of tumor invasion was considered as MRI T4. Multiple liver metastases were detected by other examinations. The patient received systemic chemotherapy.
Conclusion: Melanoma cells contain melanin pigments, which are paramagnetic due to the presence of free radicals, and these cells show decreased T1 relaxation time and increased T2 relaxation time on MRI. Therefore, MRI findings of melanoma are characterized by high-in-low intensity on T1WI, and mixed intensity on T2WI. MRI is useful for preoperative staging in patients with anorectal malignant melanoma.

5.14 Colon cancer related to MUTYH gene in Morocco: First observations and prevalence study

FZ Laarabi12, I Cherkkaoui Jaouid12, N Kanouni3, A Sefiani 12
1 Centre de génomique humaine, Université Mohamed V Souissi;
2 Département de génétique médicale, Institut national d’hygiène; 3 Cheikh Zaid Hospital, Rabat (Morocco)

Introduction: MYH-associated polyposis (MAP) is an autosomal recessive inherited disease. People with this disorder tend to develop multiple adenomatous colon polyps during their lifetime and have an increased risk of colorectal cancer. MAP has recently been described and there is much to be learned about the condition. Recessively inherited mutations in the base excision repair gene MYH are associated to this predisposition to colorectal adenomas and cancer. The Y165C and G382D are the most frequently mutations reported in Caucasians and alone account for 90% of the mutations in these populations. Beside the c.1186-1187insGG mutation was reported twice in patients from Maghrebian origin. MAP is poorly known in populations with high levels of consanguinity like North African populations, in particular in Morocco, and the MAP carrier frequency in the general Moroccan population has never been evaluated. In this ongoing study we aim to describe the mutational spectrum of MYH Moroccan patients with MAP and to estimate by molecular epidemiology methods in Moroccan population, the prevalence of homozygote or compound heterozygote genotype conferring MAP due only to three recurrent mutations, the c.494A>G (Y165C), the c.1145G>A (G382D) and the c.1186-1187insGG (p.Glu396fsX42).

Methods: We searched for MYH mutations by direct DNA sequencing of MYH gene in 3 patients with typical criteria of MAP. DNA extracted from blood samples of healthy Moroccans was also tested for recurrent MYH mutations using real-time PCR or DNA fragment analysis and heterozygote profiles were confirmed by direct sequencing. We searched for the mutations c.494A>G and c.1145G>A in 400 subjects, and the mutation c.1186-1187insGG in 250 subjects.

Results: We confirmed the diagnosis of MAP in three Moroccan patients who were carriers of the mutations Y165C, G382D or c.1105delC at the homozygous state. The identification of these mutations allows us to offer genetic counselling according the autosomal recessive inheritance pattern of this genetic predisposition to colon cancer. Furthermore, we estimated to 1/10000 in the Moroccan population, the prevalence of MAP due solely to the three recurrent mutations (c.494A>G, c.1145G>A and c.1186-1187insGG).

Conclusion: With high consanguinity level, the MAP is probably more prevalent in Moroccan population than Caucasians. Physicians should consider this condition in patients with attenuated polyposis and request molecular diagnosis to genetic labs. We plan to extend this preliminary study to other mutations and we hope that our molecular epidemiology data could help to define a cost effective molecular diagnosis strategy in our country.

5.15 Clinicopathological features of malignant colorectal polyps

A Ouakaa-Kchaou, A Kochlef, D Gargouri, D Boussoura, H Elloumi, J Kharrat, A Ghorbel
Gastroenterology unit, Habib Thameur Hospital, Tunis (Tunisia)

Background and aim: Nowadays, the number of cases in which malignant colorectal polyps are removed is increasing. Cancerous polyps are classified into non-invasive high grade neoplasia, when the cancer has not reached the muscularis mucosa, and malignant polyps, classified as T1, when they have invaded the submucosa.
The purpose of this study is to determine the prevalence and characteristics of malignant colorectal polyps.

**Methods:** From January 1985 till December 2009, 589 patients underwent an endoscopic resection of colorectal polyps. We included all the malignant polyps.

**Results:** During the study period, 803 polyps were resected. Nineteen polyps (4%) were malignant. It was an intramucosal carcinoma in 14 cases and an invasive carcinoma in 5 cases. Polyps were pedunculated in 7 cases and sessile in 12 cases. The anatomic distribution of polyps was rectal in 2 cases and colonic in 17 cases. Right-sided polyps were observed in 26% of the cases. The average size was 12.7 mm (5-15 mm). A complementary surgical resection was indicated in 5 cases.

**Conclusion:** Prevalence of malignant polyps is still low in this series. Depth of submucosal invasion of malignant transformed polyps is an important pathological factor to predict lymphatic metastasis and to select the therapeutic procedure.

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### 5.16 Accuracy of pelvic magnetic resonance imaging in preoperative staging of rectal cancer

**A Ouakaa-Kchaou, A Kochlef, D Gargouri, W Guermazi, H Elloumi, J Kharrat, A Ghorbel**

Gastroenterology unit, Habib Thameur Hospital, Tunis (Tunisia)

**Background and aim:** There is substantial evidence for neoadjuvant chemoradiotherapy and extended abdomino-perineal excision for improving local recurrence rates and overall survival for rectal carcinoma. It is of note that the prognosis of patients with advanced rectal cancer depends not only on the T and N category but also on the free circumferential margin of the tumor as determined by pathological examination. The latter may be predicted before treatment by pelvic magnetic resonance imaging (MRI).

This study aimed to identify the contribution of pelvic MRI in the care of patients with rectal cancer.

**Methods:** Consecutive patients with a rectal cancer over a period of five years were enrolled. For every patient, we studied transmural invasion depth, the height of the tumor, the lymph node involvement as well as the type of treatment (first surgery or neoadjuvant therapy). The technique of exploration by magnetic echo was based on the realization of axial cuttings in T2 (T2 Fat Sat), T1 and T1 Fat Sat with injection of gadolinium.

**Results:** We studied twenty-five cases (sex-ratio: 1.27; mean age: 57 years). Pelvic MRI was realized in ten patients. The most frequent aspect was that of an infiltrating process (T3) of the low rectum (70%) extending 5.95 centimeters in height on average. The circumferential resection margin was lower than a millimeter in four cases. A T4 stage was noted in a single case. The presence of lymph node invasion was noted in five cases. Data of the parietal invasion in the CT scan and in the MRI were equivalent in only 40% of the cases. In the assessment of mesorectal envelope integrity, MRI had a specificity of 75%.

**Conclusion:** Pelvic MRI appears useful for preoperative locoregional assessment and decision-making management of rectal cancer.

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### 5.17 Primary linitis plastica of the rectum during pregnancy

**B Ihyane¹, M Salihoun¹, N Kabbaj¹, L Amrani¹, Z Chaoui¹, F Sebbah², N Amrani¹**

¹ EFD-Hepatogastroenterology Unit; ² Surgery C, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Background:** Primary linitis plastica of the rectum is a rare affection and especially during pregnancy. The diagnosis is late since the presenting symptoms of colorectal cancer are attributable to the usual manifestations of pregnancy. We report a case of a young patient (39 years old) with primary rectal linitis during pregnancy and the multidisciplinary approach.
**5.18 Rectal linitis plastic: 2 case reports**

S Alaoui Slimani, F Lahdami, M Tahiri, F Haddad, W Badre, A Bellabah, R Alaoui
Gastroenterology unit, Ibn Rochd Hospital University Centre, Casablanca (Morocco)

**Background:** Rectal linitis plactiva (RLP) is a rare tumor (0.1% of colorectal cancer) with a poor prognosis. RLP can be a primary tumour, secondary to gastric linitis, or a metastatic form of breast or prostate carcinoma. Diagnosis is difficult because of nonspecific clinical and endoscopic findings and frequent negative biopsies (50%). The aim of this work is to review 2 cases of RLP diagnosed at the hepatogastroenterology unit of the CHU Ibn Rochd in Casablanca.

**Case 1:** 44-year-old man, splenectomized 30 years ago, admitted for dysenteric syndrome with rectal bleeding. The rectal examination showed a circumferential tumour at 1 cm from the anal margin. The biopsy concluded to an adenocarcinoma with independent cell out of signet ring. Opacification and gastroscopy were normal. Pelvic CT showed stenotic rectal tumour extending to the rectosigmoid junction with nodular infiltration of perirectal fat and hypogastric lymph nodes. Abdominal ultrasound showed no hepatic secondary location or ascitis. The patient refused radiotherapy treatment and the outcome was marked by the death of the patient 6 months after diagnosis.

**Case 2:** 31-year-old man, with a history of pulmonary tuberculosis, presenting with rectal bleeding and rectal syndrome with severe loss of weight during the last 3 months. Rectoscopy showed a stenotic tumour at 7 cm from the anal margin. Histological studies showed poorly differentiated and infiltrating carcinoma with isolated cells signet ring. Opacification and gastroscopy were normal. Pelvic CT showed stenotic rectal tumor with infiltration of perirectal fat. **Conclusion:** The delay of diagnosis darkens the prognosis and complicates the therapeutic attitude based on preoperative radio and chemotherapy.

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**5.19 Synchronous coexisting adenocarcinoma and primary colonic lymphoma**

N Amellal, N Kabbaj, S Sentissi, N Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Background:** Coexisting of primary colonic lymphoma and adenocarcinoma is extremely uncommon. We report the case of synchronous non-Hodgkin lymphoma and advanced colonic adenocarcinoma.

Conclusion: Colonic adenocarcinoma is the most common colonic cancers. However, primary colonic lymphoma is a less frequent tumour. Coexisting primary colonic lymphoma and colonic adenocarcinoma is uncommon. Our patient had rectal, sigmoid and gastric lymphoma associated with a sigmoid adenocarcinoma. So the question is: does the colonic lymphoma predispose to the development of an adenocarcinoma?

5.20 Association adénocarcinome rectal et tumeur endocrine pulmonaire : est-ce une coïncidence?

K Elfadil, K Charaf, Z Samlani, A Diffaa, K Krati
Service d’hépato- Gastro-entérologie, CHU Mohamed VI, Marrakech (Maroc)

Les tumeurs endocrines sont un ensemble de tumeurs composées de cellules ayant un phénotype commun caractérisé par l’expression de marqueurs protéiques généraux et par des produits de sécrétion hormonale spécifique ; elles peuvent être d’origine endodermique et dans ce cas, la localisation pulmonaire est fréquente ainsi que la localisation rectale. La fréquence des TNE au sein des carcinomes peu différenciés est de 13 à 50 %, mais il n’a jamais été décrit une association entre adénocarcinomes anal bien différencié et tumeur neuro endocrine pulmonaire. Nous rapportons l’observation d’un patient portant cette association recruté au service de gastro-entérologie du CHU Med VI de Marrakech. Il s’agit d’un homme de 64 ans, suivi pour diabète, HTA et cardiopathie ischémique qui a consulté pour proctalgies et dont l’examen clinique ainsi qu’endoscopique a trouvé un polype pédiculé anal dont l’étude anatomopathologique de la pièce de résection endoscopique a conclu à un adénocarcinome bien différencié. La TDM thoraco abdomino pelvienne a découvert la présence d’une masse pulmonaire gauche au contact d’une branche lobiare, l’étude immuno-histochimique de la biopsie par bronchoscopique a conclu à un carcinome neuro-endocrine pulmonaire. Le reste du bilan à la recherche d’une autre localisation a été négative. Le patient est décédé au cours de l’hospitalisation. S’agit-il d’une simple association sans relation entre ces deux tumeurs ou peut il exister des micro-foyers de Tm neuro endocrine au sein de l’adénocarcinome bien différencié comme ça été décrit dans les carcinomes peu différenciés et la localisation pulmonaire ne représenterait alors qu’une métastase ?

5.21 Le GIST rectal : à propos de deux observations et une revue de la littérature

S Gharaba1, Z Bajaddoub1, Z Samlani1, A Diffaa1, K Krati1, K Rabbani2, Y Narjis2, A Finech2, T Abouelhassan3, A Samkaoui3
1 Service d’hépato- Gastro-entérologie, 2 Service de chirurgie viscérale, 3 Service de réanimation anesthésie, CHU Mohamed VI, Marrakech (Maroc)

Les tumeurs gastro-intestinales (GIST) sont des tumeurs mésochymateuses peu fréquentes du tractus digestif ; elles siègent le plus souvent au niveau de l’estomac, l’intestin grêle, mais plus rarement au niveau du rectum. Nous rapportons 2 cas de tumeurs stromales rectales confirmées par l’histologie et l’immunohistochimie. Nous en rapportons les particularités cliniques, radiologiques et thérapeutiques, ainsi qu’une revue de la littérature. La première observation concerne un homme de 50 ans ayant consulté pour un syndrome rectal avec émissions glairo-sanglantes ; l’examen proctologique a montré un processus tumoral sous-muqueux étendu de l’anus jusqu’à 8 cm de la marge anale ; la TDM abdominopelvienne a montré la masse tumorale rétrop rectale 10/12, avec quelques zones de nécrose. L’étude anatomopathologique et immuno-histochimique d’une biopsie écho guidée a conclu à un aspect en faveur d’une tumeur gastro-intestinale stromale (GIST). Le patient a été mis sous imatinib. La deuxième observation concerne un jeune homme de 32 ans, ayant consulté pour des proctalgies. La rectoscopie a montré un aspect de tumeur sous-


5.22 Appendicular adenocarcinoma

M Salihoun¹, H Chellat¹, L Ifrine², Z Chaoui¹, A Belkouchi², N Amrani¹
¹ EFD-Hepatogastroenterology Unit; ² Surgery A Department, Ibn Sina Hospital, UM5S, Rabat (Morocco)

**Background:** Appendicular adenocarcinoma (ADK) is a rare tumor (2-4% of appendix malignant tumors). We report an original case of appendicular ADK revealed by appendicular abscess.

**Case report:** 42 year-old woman, presented appendicular syndrome, a right iliac fossa (IDF) mass, there was no peripheral lymphadenopathy. Appendicular abscess was evoked. Abdominal CT showed in IDF a retrocecal mucocoele process, invading right psoas muscle. There was no deep lymphadenopathy or ascites or liver metastasis. Surgical exploration revealed appendicular tumor invading psoas. Right hemicolectomy and part resections of right psoas were done, with ileocolic anastomosis. Histological study concluded to appendicular mucosal colloid ADK T4N0Mx. One month later, she presented IDF pain with mucous evacuations. Abdominal CT showed a psoas recurrence. Psoas resection was performed. Adjuvant chemotherapy is planned.

**Conclusion:** ADK appendix is a rare entity. Clinical symptoms are non specific and diagnosis is usually done at an advanced stage. Only 14% are revealed by appendicular abscess. Histological examination must be done after appendices resection.

5.23 Appendiceal Mucocele: Benign or Malignant?

Fadwa Laayouni, Wafae Hliwa, Salwa Nadir, Rhimou Alaoui, Abdellatif Cherkaoui
Hepatogastroenterology unit, Ibn Rochd, Casablanca (Morocco)

**Introduction:** Mucocele of the appendix is a rare lesion, characterized by distension of the lumen due to accumulation of mucoid substance. The incidence ranges between 0.2% and 0.3% of all appendectomies, with a higher frequency in females (4/1) and in people over 50 years. Mucocele can result from mucosal hyperplasia, mucinous cystadenoma, or mucinous cystadenocarcinoma.

**Purpose of the work:** To discuss the clinical features of this disease, describe the main signs and ultrasound scanner and put the item on the risk of its malignant transformation.

**Material and methods:** We report a medical observation for an appendiceal mucocele with malignant transformation in mucinous cystadenoma collated in the Hepato-gastroenterology unit of the CHU Ibn Rochd in Casablanca.

**Case report:** A 50-year old man, operated on for right inguinal hernia, presented with a constant right lower quadrant pain of 4-year duration. His pain did not radiate and became more intense 1 month before without transit disorder or externalized gastrointestinal bleeding. The abdominal examination was normal except for focal tenderness over McBurney’s point without rebound tenderness on palpation. Abdominal Ultrasonography and computed tomography scanning revealed a 9.28 /6.82 cm in diameter, blind-ending, fluid-filled structure consistent with mucocele of the appendix but ileo-cecal tumour could be removed. The small bowel showed a filling defect suggestive of a tumour inside edge of the caecum or appendix. Colonoscopy was performed normally. The treatment consisted of an ileo-coeco-colectomy. The tumour was diagnosed on histological section as mucinous cystadenoma. The boundaries of ileal and colonic resection are healthy. The short term trend showed no locoregional recurrence but the patient was lost.
Conclusion: Appendiceal mucocele presents a challenge to the surgeon who does not appreciate the effect of pathological diagnosis on the operative procedure. While some neoplasms with malignant potential may be treated definitively by resection, other seemingly benign lesions must be treated conservatively due to complications that ensue from peritoneal and cecal inoculation and the possibility of progression to malignancy.

6 ANUS

6.1 Cancer of the anal canal

B Ihyane, M Salihoun, L Amrani, I Serraj, M Acharki, M Nya, Z Chaoui, N Kabbaj, N Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Cancers of the anal canal are uncommon. They represent 1.2% of digestive cancers and 6% of anorectal cancers. Squamous cell cancer of the anal canal represents 95% of cases of anal canal cancer; only 5% are metastatic at diagnosis onset. Treatment aims to cure the patient and to obtain better local control by preserving sphincter function. The aim of our study is to determine the epidemiological, clinical, endoscopic and histopathological aspects of these cancers.

Patients and methods: All cases of tumors of the anal canal were collected during 10 years. All data are collected from registers of rectosigmoidoscopy and histopathology.

Results: 31 patients had cancer of anal canal out of 4,800 rectosigmoidcopies (0.6%). 18 were females (58%) and 13 were males (42%), mean age was 52 years (22-77 years). Clinical symptomatology was dominated by rectal bleeding in 61.5% of cases, proctalgia in 19.5%, deterioration of general state in 16% and anal pruritus in 3.2%. Rectosigmoidoscopy showed an ulcerative budding process circumferential in 61.3% of cases, hemi circumferential in 26% of cases, stenosis in 3% of cases, cauliflower aspect in 6.5% and polypoid aspect in 3%. Histopathological study concluded to a squamous cell cancer in 64.5% of cases and to an adenocarcinoma in 35.5% of cases.

Conclusion: The most common endoscopic aspect of the canal anal cancer is ulcerative budding process and the most frequent histological type is squamous cell carcinoma.

6.2 Anal cancer: about 89 cases

H Sammoud, O Ahmadi, J Mouhcine, M Tahiri, F Haddad, W Badre, A Bellahab, R Alaoui
Gastro-enterology Unit, Ibn Rochd University Centre, Casablanca (Morocco)

Introduction: The cancer of the anus is rare and represents approximately 1-2% of gastroenteritis tract tumours. His incidence increased with the outbreak of papilloma virus and HIV infection. The purpose of our study is to analyze the epidemiological, clinical, endoscopic and anatomo-pathological aspects of this cancer through a study of cases admitted in our unit.

Patients and methods: It is a retrospective study over a period of 18 years including 89 patients admitted in the gastro-enterology unit of Ibn Rochd university hospital in Casablanca.

Results: The mean age was 57.4 years with a feminine ascendancy. The average deadline of consultation was 5 months. The clinical presentations were dominated by rectal bleeding (78.2%), anal pain (45.4%), followed by rectal syndrome, digestive disorders and weight loss. The proctologic examination found an ulcerative and budding tumour in 43.5% of the cases, budding (37%), ulcerative (12.4%) and infiltrating tumour (7.1%). The anal localization was present in 53.6% of the cases and anal margin in 46.4% of the cases. Histological study found that squamous cell carcinoma was the most frequent in 78% of the cases, followed by adenocarcinoma in 11% of cases, malignant melanoma (9%), basaloid carcinoma (1%) and stromal tumour (1%). The HIV serology was negative in all our patients. The treatment was based
on exclusive radiotherapy or associated with the chemotherapy and abdomino-pelvic amputation. 3 patients had colostomy. Therapeutic abstention was recommended in 6 patients. 14 patients refused the treatment.

**Conclusion:** The anal cancer is rare. It is more frequent in women and young homosexual. Nevertheless, the screening in patients at risk remains controversial. The treatment is based essentially on the radiochemotherapy association.

### 6.3 Neuroendocrine carcinoma of the anal canal

**T Kharrasse, F Laayouni, W Hliwa, R Alaoui**

Hepato Gastro-enterology department, Ibn Rochd university hospital, Casablanca, Morocco

**Background:** Neuroendocrine carcinomas of the anal canal are rare. The diagnosis of these tumours is often difficult, and their management remains disappointing.

**Purpose:** The aim of our study was to report diagnostic and therapeutic characteristics of neuroendocrine carcinoma of the anal canal.

**Observation:** A 45-year-old man, without significant medical history, was admitted for rectal bleeding, proctalgia and an important weight loss. The proctological examination revealed a budding, ulcerous and partially stenosing tumour located 2 cm from the anal margin. Biopsies showed a poorly differentiated neuroendocrine carcinoma. A full metastatic assessment demonstrated liver and adrenal metastases. After multidisciplinary consultation, the patient underwent chemotherapy, but he died fourteen months after the first symptoms appeared.

**Conclusion:** This case illustrates the severity of the neuroendocrine carcinomas of the anal canal. The improved prognosis of these tumours cannot be achieved without rapid diagnosis and a multidisciplinary approach.

### 6.4 Tumeur de Buschke Lowenstein dégénérée

**Z Samlani-Sebbane, S Benidamou, A Diffaa, K Krati**

Service d’hépato-gastro-entérologie et de proctologie CHU Mohamed VI, Marrakech (Maroc)

La tumeur de Buschke Lowentein (TBL) est un condylome acuminé géant caractérisé par son potentiel dégénératif et son caractère envahissant et récidivant après traitement. Il s’agit d’une tumeur rare dont la fréquence est estimée actuellement à 0,1% de la population générale. La dégénérescence n’affecte que 8-25 % des TBL. Nous rapportons trois cas de TBL dégénérée, diagnostiqués et suivis dans notre service. Il s’agit de trois hommes, dont la moyenne d’âge est de 55 ans, sans antécédents notables, notamment pas d’infections par le VIH, et qui se sont présentés pour des proctalgies, avec apparition d’une masse ano-périnéale augmentant progressivement de volume. L’examen a retrouvé une énorme masse en chou-fleur, nécrosée par endroits, saignant facilement au contact évoquant une tumeur de Buschke Lowenstein. La biopsie a conclu à un carcinome épidermoïde verruqueux bien différencié. Le bilan d’extension clinique et radiologique a montré des métastases ganglionnaires dans deux cas et localisées dans l’autre cas. La transformation maligne de la TBL est une complication peu fréquente mais rapportée dans diverses séries. L’intervalle qui sépare le début de la TBL de sa dégénérescence est le plus souvent long, allant de quelques mois à plusieurs années. La dégénérescence peut être suspectée devant l’apparition de douleur, de saignement local, ou d’une augmentation rapide du volume de la tumeur.

### 6.5 Neoplastic perianal fistula

**B Elhamidi, H Elazrak, F Haddad, M Tahiri, W Badre, M Bellabah, R Alaoui**

Gastro-enterology unit, Ibn Rochd university hospital, Casablanca (Morocco)

**Introduction:** The occurrence of adenocarcinoma of the anal canal revealed by chronic fistula is rare. The pathogenesis is still unknown. The diagnosis is often delayed.

**Patients and methods:** We report 3 cases observed at the Hepato-Gastroenterology unit of the Ibn Rochd university hospital of Casablanca. Our aim is to report the pathophysiological, clinical and therapeutic aspects of this disease.
Results: Case N° 1: A 51-year old man with a risky sexual behaviour, presenting a swelled anal fistulae. Proctology examination showed an anal tumour with fistulous opening. The histological examination revealed a perianal adenocarcinoma; there were no metastasis. The patient was treated with radio-chemotherapy combination.

Case N° 2: A 62-year old man, operated on for recurrent complex anal fistula, presenting with rectal bleeding proctalgia and purulent secretion. Proctology examination showed an infiltrating perianal lesion. Pathological examination showed an undifferentiated adenocarcinoma on chronic perianal fistula. The staging revealed liver metastases. The patient refused abdomino-pelvic amputation.

Case N° 3: A 59-year old man, having a family history of colorectal cancer, presented with a perianal fistula with chronic purulent secretion. The histological study of the surgical specimen revealed a mucinous colloid adenocarcinoma.

Conclusion: The histological study of all chronic anal fistulas, whether recurrent or not, should be maintained to eliminate an underlying tumour.

6.6 Malignant degeneration of an anal Crohn's disease

G Boudegga, W Hliwa, I Essaidi, R Alaoui, A Cherkaoui
Gastro-enterology unit, CHU Ibn Rochd, Casablanca (Morocco)

The malignant degeneration of an anal Crohn's fistula is uncommon; we report one observation.

Case report: We report the case of a 38 year old woman, with known Crohn's disease, colic and anal since 23 years, cortico dependent (20 mg/day) since 12 years, treated with Azathioprine since 7 months, for Takayashu since 6 years and for cortico induced diabetes. She was admitted in July 2009 for the treatment resistance of an anal fistula. During the pre antiTNFα check-up, we noted the recent apparition of a very painful left peri anal swelling. The pelvic IRM indicated because of the suspicion of an anal abscess showed the aspect of an anal canal tumor. The surgical exploration found a tumoral process in the anal canal, the biopsy showed a squamous carcinoma well differentiated and infiltrating ulcerated process. The coloscopy (topographic evaluation) found a cauliflower-like tumoral process extended in the low part of the anal canal with destruction of the sphincter. The evaluation of extension did not show metastasis, the patient underwent an abdomino perineal resection necessitating a permanent colostomy.

Discussion: Cancer is a dangerous complication of inflammatory bowel disease. It is mainly about colorectal cancer. Anal canal cancer is uncommon. In our observation, the initial diagnosis was wrong (perineal abscess), so it is interesting to multiply diagnostic investigations (interest of IRM and echoendoscopy).

Conclusion: The malignant degeneration of Crohn's disease poses therapeutic problems (treatment of carcinoma and underlying disease).

7 GIST

7.1 Gastrointestinal Stromal Tumors (GISTs): the Moroccan experience

Glaoui Meryem, Amziren Mounia, Belbaraka Rhizlane, Errihani Hassan
Medical Oncology unit, National Institute of Oncology, Rabat (Morocco)

Background: Gastrointestinal stromal tumors (GISTs) are rare and account for 0.1-3.0% of all gastrointestinal neoplasms. They are caused by activating KIT or PDGFRA mutations and can arise throughout the entire GI tract. However, the most commonly affected sites are the stomach (60%) and the small bowel (jejenum and ileum 30%, duodenum 5%). Immunohistochemical staining for the KIT protein has become the most important diagnostic parameter for GISTs.

Aim: To review the features of our GISTs population.

Materials and Methods: This is a retrospective case series study. The medical records of all patients referred to the National Institute of Oncology in Rabat with an immunohistochemical diagnosis of GIST between January 2000 and December 2008 were reviewed and classified according to Fletcher's criteria.
**Results:** Forty-two patients were identified with GISTs: 7 patients were in the low risk group, 13 were in the intermediate risk group and 21 were in the high risk group. Age range of all the patients was 22 and 78 years (mean 56 years) with a slight female predominance (male-female ratio: 16:26). Amongst the 42 cases of GISTS, 18 cases involved the stomach, 13 cases the small intestine, 4 cases the peritoneum and 3 the colorectal tract. Location of the primary tumour could not be determined for 4 patients because of the presence of extensive peritoneal metastases. The most common presenting symptoms were gastrointestinal blood loss in 24 cases, abdominal pain in 11 cases, and small bowel obstruction in 3 cases. Median follow up was 3 years (3 months and 8 years): seventeen patients were lost to follow-up, death occurred in 13 patients and 12 patients had metastatic disease.

**Conclusion:** Gastrointestinal stromal tumours are a group of heterogeneous and rare diseases, the specific features of our GISTs population is the slight female predominance and the young age of diagnosis, which is somehow in conflict with the western data.

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### 7.2 GIST: Epidemiological, endoscopic, and therapeutic particularities in Marrakech (Morocco)

A Farouk, A Diffaa, Z Samlani, K Rabbani, Y Narjis, T Aboulhassan, N Samkaoui, B Finech, K Krati

Hepato-Gastroenterology unit, general surgery and reanimation unit, Cadi Ayyad University, University Hospital Mohamed VI, Marrakech. Gastroenterology department, CHU Med VI, Marrakech (Maroc)

**Introduction:** The gastrointestinal stromal tumors (GIST) represents <1% of malignant tumors of the digestive tract. The aim of our work is to study the epidemiological, endoscopic and therapeutic particularities of our patients.

**Patients and Methods:** This works is a retrospective study of all GIST observations of gastroenterology department of the University Hospital Mohamed VI in Marrakech between October 2005 and October 2010.

**Results:** Thirteen cases have been included in this series (9 men and 4 women). The sex ratio was 2.25. The mean age was 54.3 years (range 24-73 years). The patients consulted for epigastric pain in 7 cases, and gastrointestinal bleeding in 6 cases. The mean time for diagnosis was 8 months (range 1 week-1 year). The gastrointestinal endoscopy was performed in all patients, the endoscopic finding was: extrinsic compression noted in 6 cases, ulcerated submucosal tumor in 4 cases, budding ulcerative tumour in 2 cases. Eleven cases located in the stomach and 2 cases were located in the rectum. All tumors were malignant. Four tumors were metastatic and 3 locally advanced. The partial gastrectomy was performed in 7 patients associated in 4 cases to adjuvant treatment. Palliative chemotherapy was performed in 2 patients. The tumoral recurrence has been noted in two cases as hepatic metastasis.

**Conclusion:** GISTs were the most common mesenchymal tumors of the digestive tract. The stomach was the more frequent location in our study and the diagnostic delay must be shorter to improve the prognosis.

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### 7.3 Gastrointestinal stromal tumors: epidemiological, clinical and therapeutic aspects: about 27 cases

A Asguane, S Nadir, R Alaoui, A Cheurkaoui

Hepato-gastroenterology Unit, CHU Ibn Rochd, Casablanca (Morroco)

**Introduction:** Gastrointestinal stromal tumors are the most common mesenchymal tumors of the digestive tract. The recent discovery of mutations in c-kit and the expression of c-kit protein by tumor cells have led to better characterize them. These tumors are usually asymptomatic, discovered incidentally during endoscopy or surgery.
Purpose: To clarify the epidemiological, diagnostic and therapeutic aspects of this pathology.

Patients and methods: We report a retrospective study of 27 cases of gastrointestinal stromal tumors collected at the Gastroenterology Unit of the CHU Ibn Rushd in Casablanca on a 10-year period from 2000 to 2010. The diagnosis was based on the presence of protein C-kit immunohistochemistry.

Results: The average age of our patients was 89 years with a male predominance clinical signs were dominated by diffuse abdominal pain in 80% of cases, gastrointestinal bleeding in 57% and a palpable mass in 48% of cases. There were 12 stromal tumors in the small intestine, 5 in the stomach, 3 in the rectum, 3 of the colon, 1 of the duodenum and mesenteric stromal tumor. The diagnosis was made by immunohistochemistry with the presence of a positive C-kit on a surgical specimen in 70% of cases, on a per-endoscopic biopsy in 25% of cases and ultrasound-guided biopsy in a case of mesenteric tumor; treatment was surgical in 85% of cases. Imatinib was used in 15% of cases.

Conclusion: The identification of the pathological and immunohistochemical concept of stromal tumours has recently been made possible by the recent discovery of the mutation C-kit and the expression of protein C-kit. The treatment involves complete surgical excision of the tumor. Imatinib has shown efficacy in recurrent and metastatic tumors.

7.4 GIST case report

S Alaoui Slimani, S Arazzakou, M Tahiri, F Haddad, WB Badre, A Bellabah, R Alaoui
Gastroenterology unit, Ibn Rochd Hospital University Centre, Casablanca (Morocco)

Background: Gastrointestinal stromal tumour (GIST) is the designation for the specific c-kit expressing and Kit-signalling driven mesenchymal tumors, many of which have Kit-activating mutations. A great majority of them occur in the stomach (60% to 70%) and small intestine (25% to 35%), with rare occurrence in the colon and rectum (5%), esophagus (<2%) and appendix. However, common to all these tumours is expression of Kit (CD117 antigen), which is a major diagnostic criterion. They are often revealed by an obstructive syndrome more rarely gastrointestinal bleeding.

Observation: We report the case of a 56-year old man with a past medical history of diabetes, presenting with rectal bleeding and anaemia. Rectoscopy showed recent bleeding beyond 15 cm of anus. Abdominal ultrasound revealed a cystic mass of the upper abdomen in contact with a thickening wall. Abdominal CT showed a mesenteric training at the touch of a handle measuring 36 mm in diameter. The gastroscopy and opacification was normal but rectal bleeding and anaemia persisted despite blood transfusion which led to surgical exploration. A jejunal tumor was found at 20 cm from the Treitz angle, the bowel and mesentery were resected, along with the tumor, with immediate restoration of continuity. Histological and immunohistochemical studies showed fusocellular proliferation with a very low mitotic index, and mucosal ulceration, dissecting the muscular and serous infiltrates the sub without exceeding the serous, expressing c-KIT + (CD -117), signing a jejunal stromal tumor. Moreover, the staging did not find secondary lesions.

Conclusion: Gastrointestinal stromal tumours remain asymptomatic for a long time, and occur most often as a complication. Jejunal localization is rare. Lower GI bleeding is a good way of evidencing such lesions, because of their exoluminal development. Complete resection of the tumour is the treatment of choice; the recent development of targeted therapy by molecular biology brings a new hope in the management of these tumours.

8 ENDOCRINE TUMOURS

8.1 Clinico-pathological analysis of neuroendocrine tumors of the gastrointestinal tract

A Ouakaa-Kchaou, A Kochlef, D Gargouri, R Kharrat, H Elloumi, J Kharrat, A Ghorbel
Gastroenterology unit, Habib Thameur Hospital, Tunis (Tunisia)

Background and aim: Gastrointestinal neuroendocrine tumors (GI-NETs) are rare and constitute 0.5–1% of all human malignancies. However, the epidemiology of GI-NETs is poorly understood. Recent analyses have suggested changes in the incidence and distribution of such tumors. We aimed to define trends in the characteristics of GI-NETs in our department.
Methods: An overview about epidemiology, clinical features, diagnostic methods and therapy of neuroendocrine tumors of the gastrointestinal tract over the period 2005-2009 is provided.

Results: In all, 7 cases of GI-NETs were identified (mean age: 62 years, 4 males, 3 females). Only 2 patients presented with a carcinoid syndrome (flushing and diarrhea). The anatomic distribution of tumors was stomach 43%, small intestine 14.25%, appendix 14.25%, colon 14.25%, and rectum 28.5%. One patient had a double localization (colon and rectum). The diagnosis was confirmed histologically in all cases, after surgical excision of the primary tumor (2 cases) or by biopsies taken during endoscopy (5 cases). The immunostaining was positive for Chromogranin A and Synaptophysin in 4 patients. Three patients were treated by mucosectomy. Two patients had a systemic chemotherapy (peritoneal carcinosis in 1 case and multiple visceral metastases in the other case).

Conclusion: GI-NETs remain rare in our study. Therefore, patients with GI-NETs should be referred to as few centers as possible in order to obtain the highest experience and the greatest understanding of these tumors thereby achieving the capacity to offer patients the best possible treatment and to create optimal conditions for research.

8.2 Fundic neuro endocrine tumors on atrophic gastritis

A Karim, F Laayouni, T Kharrass, W Hliwa, S Nadir, R Alaoui, A Cherkaoui
Hepato-Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: Fundic neuroendocrine tumors (or carcinoid tumors) are malignant tumors of slow progression, developed at the expense of gastric enterochromaffin cells likes. They represent 0.3% of gastric tumours and 4.3% of their digestive localization. They are divided into three types according to their physiopathological origin, which has different presentation and prognosis. Neuroendocrine tumors in chronic atrophic gastritis (type I) are most frequent. They occur at any age, and have a female predominance. They are clinically latent and most often discovered during routine endoscopic examinations.

Aim: To report a new case of fundic neuroendocrine tumor admitted to the gastroenterology department of CHU Ibn Rochd in Casablanca and to analyze diagnosis, treatment and outcome of this disease.

Case report: A 25-year old man, without pathological past history, was admitted to our department due to intermittent hematemesis and epigastric pain of 1-month duration previous to his hospitalization. Clinical examination was normal. The gastric endoscopy discovered several sub-centimetric polypoid fundic tumours; histological study concluded to neuroendocrine tumours in chronic atrophic gastritis. The morphological evaluation was normal. The treatment consisted of total gastrectomy. The outcome was good a decline of 60 months.

Conclusion: The diagnosis of neuroendocrine tumour in atrophic gastritis imposes investigations allowing for the therapeutic indications. Their treatment is essentially surgical. Their prognosis is good.

9 DESMOPLASTIC TUMOURS AND PARAGANGLIOMA

9.1 Intra-abdominal desmoplastic small round cell tumour: a case report

S Eddeghai, F Hlili, A Diffaa, Z Semlani, K Krati
Hepatogastroenterology unit, Qadi Ayyad university, Mohamed VI university hospital Marrakech (Morocco)

Desmoplastic small round cell tumour corresponds to rare and aggressive neoplasm and was individualised in 1989. The clinical characteristic includes a predilection for young adult men and predominant intra-abdominal peritoneal localisation. This condition causes etiopathogenic, diagnostic, therapeutic and prognostic problems. Indeed, the etiopathogenesis is still unknown. Diagnosis is asserted only by immunohistochemical and cytogenic study. Its treatment is not well codified. The prognosis is poor because this tumour is relatively unresponsive to association of surgery, chemotherapy and radiation therapy. The objective of this work is to report a personal observation of a desmoplastic small round cell tumour; and to perform a review of the literature to clarify the epidemiological, clinical, paraclinical and therapeutic aspects of this rare tumour.
9.2 Retroperitoneal Paraganglioma

Fadwa Laayouni, Wafae Hliwa, Salwa Nadir, Rhimou Alaoui, Abdellatif Cherkaoui
Hepatogastroenterology unit, Ibn Rochd, Casablanca (Morocco)

Introduction: Paragangliomas are rare tumours arising from extra adrenal chromaffin cell and accounting for 10~18% of all chromaffin tissue-related tumours and one tenth of pheochromocytomas. Mostly benign with good prognosis, they can however be locally invasive and metastasize as well.

Purpose of the work: To underline the rarity of this type of extra-adrenal retroperitoneal tumour frequently discovered incidentally and the risk of being malignant tumour.

Material and Methods: We report a case of retroperitoneal paraganglioma diagnosed by the histological study of the operative piece, lived at the Gastroenterology unit of the CHU Ibn Rochd in Casablanca.

Case Report: A 45-year old woman, normotensive, was admitted due an abdominal mass revealed by a right flank pain with chronic constipation lasting for 2 years and a conservation of the general statement. Abdominal ultrasound showed the existence of a great mixed echogenic sub liver mass, partially necrotic. The tumour presented heterogeneous enhancement on the abdominal CT scan and MRI. Biological tests were normal. The treatment was surgical. Pathologic diagnosis was paraganglioma. The outcome was good within four months.

Conclusion: Retroperitoneal paragangliomas are rare tumors, mostly benign with good prognosis, but can be locally invasive and also metastasize. The optimal treatment for paragangliomas is invariably prompt surgical removal to reduce the symptoms.

10 LIVER

10.1 Epidemiological aspects of hepatocellular carcinoma on cirrhotic liver

Imane Atitar, Nawal Kabbaj, Mouna Salihoun, Laïla Amrani, M'hamed Nya, Mohamed Acharki, Naïma Amrani
EFD-Hepatogastroenterology Unit, Ibn Sina Hospital, UM5S, Rabat (Morocco)

Background: Hepatocellular carcinoma (HCC) is the most frequent type of primary liver cancer (90%) usually developed on liver cirrhosis. The aim is to evaluate epidemiological, etiological and therapeutic aspects of HCC on cirrhosis in our patients.

Material and methods: We included all cirrhotic patients diagnosed from 2007 to 2010. Cirrhotic patients known as carriiers of HCC were excluded. Diagnosis of HCC was based on Barcelona’s criteria.

Results: 17 cases out of 116 cirrhotic patients (14%) had HCC (13 men and 4 women, mean age: 65 years). Origin of cirrhosis was viral C in 70%, viral B in 24% and co-infection B and C in 6%. Diagnosis of HCC was concomitant with cirrhosis in 41% and during screening in 59%. There was a single nodule in 70.5%, 2 nodules in 17.5% and more than 2 nodules in 12%. Size ranged from 9 to 80 mm. Diagnosis of HCC was based on liver ultrasound and AFP in 53%, on CT Angiography and/or MRI in 35.3% and on histology in 11.7%. Patients were treated by surgery in 17.6%, percutaneous therapy in 17.6%, TACE in 11.7%, Sorafenib in 6%, surgery + TACE in 6% and symptomatic treatment in 23.5%. Outcome was favorable in 4 patients, 6 died and 7 patients are followed.

Conclusion: HCC is a frequent complication of viral C cirrhosis. It is often diagnosed at an advanced stage. Prevention of cirrhosis and earlier HCC screening is needed.
10.2 Le carcinome hépatocellulaire: profil épidémiologique et clinique dans la région de Marrakech

Z Samlani¹, A Diffaa¹, K Krati¹, K Rabbani², Y Najaris², A Finech², T Abouelhassan³, A Samkaoui³

¹ Service de gastroentérologie, ² Service de chirurgie viscérale, ³ Service de réanimation anesthésie, CHU Mohamed VI, Marrakech (Maroc)

Notre travail est une analyse rétrospective de 36 cas de carcinome hépatocellulaire colligés au service d’hépato-gastroentérologie du CHU Mohamed VI entre janvier 2004 et janvier 2010. Le but de notre étude est de tracer le profil épidémiologique ainsi que la prise en charge thérapeutique du carcinome hépatocellulaire, qui représente 1,12 % des patients hospitalisés sur la même période. Il s’agissait de 27 hommes et 9 femmes avec un âge moyen de 60 ans. La cirrhose est l’étiologie prédominante (n : 31), d’origine virale C (20 %), virale B (22 %), virale C et éthylique (5 %), éthylique (5 %), biliaire primitive (2 %), stéatose hépatique (5 %). Les autres étiologies sont une hépatite virale C sans cirrhose (5 %), ainsi qu’une hépatite virale B (5 %). Tous les patients étaient symptomatiques au moment du diagnostic qui s’est basé dans 20 % des cas sur l’histologie (PBF), et dans les cas restants sur des données morphologiques (échographie, TDM faites chez tous nos malades, IRM) et biologiques (AFP réalisée chez tous les malades avec un taux >200 ng/ml dans 60 % des cas) caractéristiques. Le pronostic est évalué par la classification de Child Pugh (Child A dans 5 cas, B dans 12 cas, C dans 6 cas) la taille tumorale, le degré d’extension de la tumeur [thrombose porte (13,8 %), adénopathies hilaires (5 %), métastases vertébrales lombaires (2 %)] et par la classification d’Okuda (stade I dans 2 cas, stade II dans 15 cas, stade III dans 7 cas et non précisé dans 12 cas). Le traitement était palliatif chez la plupart de nos malades (86 %), un seul patient a eu une chimio-embolisation et un autre a été mis sous sorafenib. Un traitement curatif a été possible chez cinq patients. Trois d’entre eux ont eu une radiofréquence et seulement deux patients avaient une tumeur résécable.

10.3 Imaging of hepatic tumours in children

S Sedrati, N Allali, L Chat, R Dafiri

Department of pediatric radiology, Children’s hospital, Rabat (Morocco)

Purpose: To remind different aspects of imaging of hepatic neoplasms in children

Materials and methods: Retrospective study extended over a period of 6 years (2004-2010) including 31 cases of primary hepatic tumours in children. The radiological investigation performed included ultrasound, computed tomography scans.

Results: The most common clinical symptom was abdominal mass. Mean age of the patients was 3 years. The hepatic tumours included: 26 cases of hepatoblastoma, 2 hepatocellular carcinomas, 1 rhabdomyosarcoma, 1 sarcoma, 1 primary lymphoma.

Conclusion: Hepatic neoplasms are infrequent in children and constitute only 1-2% of all pediatric tumours, and 2/3 of them are malignant. Clinical examination, biology, and imaging bring a major contribution in establishing the diagnosis. Ultrasonography with colour-Doppler is usually the first investigation performed and must approach the diagnosis; CT with contrast enhancement also provides sufficient information for diagnosis and treatment. Percutaneous biopsy is subsequently carried out in some cases.

10.4 Nodular liver: profile etiology: About 49 cases

A El Khader, I Sadeq, W Hliwa, R Alaoui, A Cherkaoui

Hepato-Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: The etiological diagnosis of liver nodules is often difficult, requiring close collaboration between clinicians, radiologists and pathologists. The hepatic hemangioma is the most common benign tumour; however, liver metastases
are 40 times more common than primary malignant tumours of the liver. Ultrasound examination is the first line in search of liver nodules.

**Purpose:** The aim of our study was to report the etiological profile of nodular liver in patients with cirrhosis and without cirrhosis.

**Materials and methods:** Retrospective study of 49 cases collected in the gastroenterology unit of the CHU Ibn Rochd in Casablanca during a 5-year period (2006-2010). The diagnosis is based on morphological characters of the nodule, the liver biopsy, digestive balance, mammography.

**Results:** The average age in our series is 55 years with male predominance (sex ratio: 1.25). The discovery of liver nodules in 5 patients is fortuitous, in front of the right upper quadrant pain in 38 patients and as part of staging of primary tumours in 6 patients. Benign tumours matched: Angioma (10 cases), focal nodular hyperplasia (1 case). Malignant tumours are dominated by metastases (25 cases) original: colic (11 cases), gastric (6 cases), pancreas (3 cases), gynecological (3 cases), bladder (1 case) and appendicitis (1 case). Hepatocellular carcinoma in cirrhotic liver post HVC is found in 13 patients. The liver biopsy was performed in 14 patients and confirmed 7 cases of metastasis, 4 cases of hepatocellular carcinoma, 1 case of intrahepatic cholangiocarcinoma and was inconclusive in 2 cases.

**Conclusion:** The diagnostic approach to liver nodular lesions requires a multidisciplinary approach. Progress in imaging techniques has allowed for restricting the indications for histological or cytological samples for diagnosis.

### 10.5 Hepatocellular carcinoma: etiologic profile

H Lahlou, B Elhamidi, M Tahiri, F Haddad, W Badre, M Bellabah, R Alaoui, A Cherkaoui
Gastro-enterology unit, Ibn Rochd university hospital, Casablanca (Morocco)

**Introduction:** Hepatocellular carcinoma is the fifth most common tumour worldwide and the third commonest cause of cancer related deaths. It occurs in 90% of the cases on a cirrhotic liver. The major causes of cirrhosis are attributed to hepatitis B and/or D infection, hepatitis C infection, alcohol and hemochromatosis. Other causes are much rarer; especially auto-immune cirrhosis, cirrhosis due to Wilson’s disease and primary biliary cirrhosis.

**Objective:** The purpose of our work is to determine the etiologic profile of hepatocellular carcinoma in our unit.

**Method:** A retrospective study of 57 observations of hepatocellular carcinoma was carried out between 2000 and 2008.

**Results:** The mean age of the patients is 63.5 years (extreme: 33-92). They are 40 men and 17 women. The sex-ratio M/F is 2.35. The diagnosis of hepatocellular carcinoma is retained on radiological and biological criteria in 87.7% of cases and on histological criteria in 12.3% of cases. 100% of the patients are cirrhotic. The diagnosis of cirrhosis is selected on clinical, biological, endoscopic and ultrasonographic criteria. The main etiologies of cirrhosis are represented by the post HVC cirrhosis in 50.9% of cases, post HVB cirrhosis in 14% of cases, post-alcoholic cirrhosis in 12.3% of cases and viral B and C co-infection in 5.3% of cases. The cause is unspecified in 17.6% of cases.

**Conclusion:** Hepatocellular carcinoma is a frequent affection. It occurs in adult male. It develops on cirrhotic liver in the majority of the cases. This cirrhosis is most often post hepatitis C. It is an affection with a poor prognosis, hence the importance of regular surveillance of subjects at risk.

### 10.6 Hepatocellular Carcinoma in Gezira State, Central Sudan

Nagla Gasmelseed¹, Mowaia Elbalal², Ameer Mohamed Dafalla¹, Ahmed Elhaj¹, Osman Khalfalla², Saeed²
¹ National Cancer Institute, University of Gezira ² Department of Medicine, Faculty of Medicine University of Gezira (Sudan)

**Introduction:** Hepatocellular carcinoma (HCC) is one of the most frequent and malignant diseases worldwide. It is the seventh most common cancer in men and the ninth in women with an estimated 560,000 newly diagnosed cases per year; it is the third most common cause of cancer deaths. There are considerable variations in the incidence of HCC throughout the world, related to geographical areas, socioeconomic factors, sex and age-specific incidence rates,
suggesting genetic differences in susceptibility to HCC. The main objective of this study is to identify the epidemiology of HCC in patients attending the National Cancer Institute (NCI), University of Gezira, Gezira State, Central Sudan.

**Material and methods:** Data from Gezira Cancer Registry was collected during 1999-2009. All information age, sex, location and occupation clinical information were recorded.

**Results:** 239 liver cancer patients were registered during this period, 167 (70%) were males and 72 (30%) were females with male to female ratio = 2.3:1. The mean age for male was 60 ± 15.8 (4-95 years), while female was 56.3 ± 17.8 (6-85 years). Liver cancer incidence rate per 105 was 6.7 during 10 years. Most of the cases were from Great Wadmedani, southern Gezira and Elmanagil area with an incidence rate per 105 of 9.7, 8.1 and 7.6 respectively. The high age standardized rate 105 (ASR) was increasing by age starting from 40-49 (2.12) in males, while in females, it started at 50-59 (20.6) and reached the maximum in more than 75 years, 129.7 for males and 55.6 for females. Regarding to the occupation most of males were farmer 56/167 (33.5%) and women were house wives 36/72 (50%). Many risk factors associated with HCC or liver cancer such as HBV infection, aflatoxin and other environmental factor are expected to be found in abundance in Gezira including pesticides which had been applied since 1930 such as DTT, Dilderine, heptachlor, Dicofol and chlorpyrifos. These may explain the increase of the ASR in males and females.

**Conclusion and recommendation:** These data provides evidence that the incidence of HCC is increasing by age. For this reasons more studies will be done including serology (HBsAg, HBe, anti-HBs, HCV), aflatoxin and pesticide effect as a risk factors should be looked into.

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### 10.7 Hepatocellular carcinoma in young adults

T Kharrasse, A Karim, W Hliwa, R Alaoui

Hepatogastro-enterology unit, Ibn Rochd university hospital, Casablanca (Morocco)

**Background:** Hepatocellular carcinoma (HCC) is one of the most common cancers worldwide. However, it is uncommon in young adults.

**Purpose:** This study aimed to examine the clinical characteristics, treatment and prognosis of young patients with HCC.

**Methods:** A retrospective analysis was performed in patients newly diagnosed with HCC over a six-year period (from January 2005 to November 2010) at our hospital. Patients aged ≤ 40 years at diagnosis of HCC were defined as young HCC patients and were reviewed.

**Results:** There were five patients (3 females) with HCC who were younger than 40 years. The mean age at diagnosis was 29.4 (range: 24-37) years. Two patients were positive for hepatitis B surface antigen and one patient was positive for both hepatitis C virus antibody and hepatitis B surface antigen. Abdominal pain, loss of weight and abdominal distension were the predominant symptoms. All patients showed relatively good liver function and very high fetoprotein levels (108.600 IU/ml). Four patients had multiple hepatic lesions and portal vein tumour thrombosis. The presence of distant metastases at diagnosis was noted in two patients. Palliative treatment was performed in all our patients. Four of them died within less than 1 year. One patient had a better prognosis, and survived for 38 months.

**Conclusions:** HCC in young adults occurs mainly in hepatitis B carriers. It is often diagnosed at an advanced stage and has a poor prognosis. Screening for HCC and an early diagnosis is deeply needed especially for HBsAg-positive patients to demonstrate an improved prognosis.

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### 10.8 Hepatocellular carcinoma in Morocco: experience of university hospital

A Timraz, Y Cherradi, FZ Ajana, I Benelbarhdadi I, W Essamri, R Afifi, M Benazzouz, A Essaid

Clinique médicale C, CHU Ibn Sina, Rabat (Morocco)

**Objectives:** Hepatocellular carcinoma (HCC) is still increasing in the world. It is the third cause of death by cancer. We aimed to report epidemiological and clinical aspects of this tumor with modalities of management according to our department experience.
Patients and Methods: It is a retrospective study including patients with HCC in our unit from 1st January 2001 to 31st December 2007. The following items were recorded: age, gender, diagnosis circumstances, liver statute, and treatment. HCC diagnosis was based either on histological or morphological criteria. Liver statute was appreciated on clinical, biological, morphological and histological data. Patients were treated according to international recommendations after multidisciplinary discussion.

Results: Two hundred ninety-one patients were included with 181 males (62%) and 110 females (38%). Mean age was 62 years (29-80). 270 patients (93%) were cirrhotic, 8 had chronic hepatitis (3%). Liver was normal in 13 patients (4%). HCC was detected during regular ultrasonography screening in 147 patients (50.5%). 143 patients (49%) were symptomatic. The main clinical signs were abdominal pain in 155 patients (53%), weight loss in 144 (49%), and ascites (22%). Hepatitis C was the major etiology (71%). The diagnosis of HCC was histologically proven in 245 patients (84%). Treatment was essentially curative (41%) using alcohol injection (n = 58), surgical resection (n = 42), radiofrequency ablation (n = 9) and acetic injection (n = 11). Intra-arterial chemoembolization was indicated in 41 patients (14%). Therapeutic abstention was retained in 130 patients (45%) (Child C, thrombosis, metastasis).

Conclusion: In our patients, male gender is prominent and hepatitis C is the major cause. Early diagnosis by regular screening improves possibilities of curative management.

10.9 Rare Association: paraneoplastic syndromes and hepatic cells carcinoma: new observation

I Essaidi, W Hliwa, G Boudegga, H Bendada, R Alaoui, A Cherkakoui
Department of gastroenterology, hospital IBN Rochd, Casablanca (Morocco)

Introduction: Paraneoplastic syndrome is defined by the set of bio clinical manifestations caused by tumours that are due neither to local tumors nor to metasteses from primary tumour. The association of hepatic cells carcinoma (HCC) and paraneoplastic syndrome is very rare (5%). Nevertheless, the paraneoplastic syndrome could be either a revelation of hepatic cells carcinoma or an indicator for its evolution.

Aim: To make the point through a new medical observation on the scarcity of this association.

Observation: A 30-year old patient followed for a primary sterility, was admitted into the Hepatic Gastro enterology unit for a cholestatic-looking jaundice. The admission examination led to a cutaneous mucosal jaundice, collateral venous circulation, irregular epigastria limited measuring 10 cm by 6 cm and a splenomegaly. The scanner and abdominal MRI were in favour of HCC on cirrhotic liver associated with a portal thrombosis. The etiologic result for the realized cirrhosis was negative, notably all hepatic B and C serology, auto immune and surcharge results. On the biologic side we noted a polyglobuly (GR: 6.106 /ul) associated with constant hypoglycemia. Based on the radiologic and biologic clinical table, we retain the diagnosis of an HCC on cirrhosis with an etiology not yet determined associated with multiple paraneoplastic manifestations: polyglobuly, hypoglycemia, and portal thrombosis.

Conclusion: The association of many paraneoplastic manifestations to HCC is exceptional; the mechanism is not yet precise as for now. However the paraneoplastic syndrome could lead to the diagnosis of a hepatic cells carcinoma and be an evolution tracer.

10.10 Sunitinib in patients with advanced hepatocellular carcinoma after progression under Sorafenib treatment

El Mehdi Tazi, Ismail Essadi, Saber Boutayeb, Hind M’rabti, Hassan Errihani
Department of Medical Oncology, National Institute of Oncology, Rabat (Morocco)

Objective: To evaluate the safety and efficacy of sunitinib in patients with advanced hepatocellular carcinoma (HCC) after progression under sorafenib treatment.

Methods: Sunitinib was administered at 50 mg daily (4-weeks-on/2-weeks-off schedule) after progression under sorafenib treatment. Adverse events (AEs) were assessed using NCI-CTCAE v2.0, and tumour response was evaluated according to RECIST. Data were analyzed retrospectively.
Results: Eleven patients with metastatic disease were treated. Seven patients (64%) presented with no liver cirrhosis. The first radiological follow-up showed stable disease in 40% of patients after marked radiological progression under sorafenib. The median time to progression was 4.1 months. Treatment was discontinued due to radiological progression (n = 8) or AEs (n = 3; hemorrhage) in all patients after 4.5 months. The median overall survival was 9.7 months. All patients with Child-Pugh class B liver cirrhosis suffered a clinical deterioration of liver function and died within 4 months due to tumour progression.

Conclusions: Sunitinib provided modest antitumor activity in patients with advanced HCC after progression under sorafenib treatment. Patients with Child-Pugh class B liver cirrhosis might not receive a clinical benefit from this second-line approach. Hemorrhagic complications may represent a clinically relevant problem of sunitinib in patients with advanced HCC.

10.11 Intrahepatic cholangiocarcinoma

A El Khader, I Sadeq, W Hliwa, R Alaoui, A Cherkaoui

Hepato-Gastroenterology unit, CHU Ibn Rochd, Casablanca (Morocco)

Introduction: Intrahepatic cholangiocarcinoma is a rare tumor with poor prognosis, requiring multidisciplinary management.

Purpose: We report a case of intrahepatic cholangiocarcinoma, collected at the Gastroenterology unit of the hospital Ibn Rochd in Casablanca.

Observation: Mrs A.N., 74 years old, who had a cholecystectomy 4 years ago, was hospitalized for cholangiocarcinoma, which was revealed by atypical epigastric pain. The abdominal pelvic scan revealed a heterodense lesion on segment I, heterogeneously enhanced and measuring 9 x 7 x 7 cm. This was confirmed by the liver biopsy. The treatment was surgery after chemotherapy.

Conclusion: We emphasize the rarity of intrahepatic cholangiocarcinoma. This tumour has a very poor prognosis with limited therapeutic options. Only surgical resection may improve survival. New effective chemotherapy treatments are needed.

10.12 Primary carcinoid hepatic tumor: report of two news cases

F Houissa¹, S Bouzaidi¹, R Bel Hadj Salah², M Ben Rejeb¹, H Mekki¹, S Trabelsi¹, A Moussa¹, M Salem¹, Y Said¹, R Debeche¹, A Zaouch², T Najjar¹

¹ Hepato-gastroenterology unit, ² Surgery A unit, Charles Nicolle Hospital, Tunis (Tunisia)

Primary carcinoid tumours of the liver are extremely rare. The diagnosis of primary hepatic etiology requires rigorous workup. We hereby report two cases.

Observation n° 1: A 48-year-old men was admitted to surgical department with an 8-month history of abdominal pain and weight loss. His physical exam was normal and no biological abnormalities were noted. Abdominal CT scan showed a heterogeneous voluminous hepatic lesion. The histological CT liver biopsy revealed a carcinoid tumour. The patient underwent laparotomy and complete macroscopic resection was performed. Histological exam of the operative specimen showed invasion of hepatic margins. The patient underwent chemotherapy and he was free of disease 2 years after surgery.

Observation n° 2: A 41-year-old women presented with right upper quadrant abdominal pain and weight loss. On physical exam there was a minimal tenderness of the right quadrant. Laboratory exam was significant for GGT of 140 UI/l. Abdominal ultrasound, CT scan and MRI revealed a voluminous heterogeneous solid mass in the left lobe of liver measuring 12 x 10 x 8 cm. A CT-guided biopsy revealed a carcinoid tumour. Further workup for primary tumour was negative. A PET scan showed additional and diffuse small hepatic tumour. Chemotherapy was indicated. She is actually undergoing her first cycle.

Conclusion: Primary carcinoid tumours of liver are rare. Their management remains surgical resection with several alternative options for non-resectable tumours.
10.13 Inflammatory effects of microwave ablation demonstrated by an increase in circulating Interleukin 6 and 10 in an ex-vivo perfused porcine liver model

G Gravante1, SL Ong1, R Sorge2, M Metcalfe1, A Dennison1, D Lloyd1
1 Department of Hepatobiliary and Pancreatic Surgery, University Hospitals of Leicester, Leicester (United Kingdom)
2 Department of Human Physiology, Laboratory of Biometry, University of Tor Vergata, Rome (Italy)

Background: The inflammatory response following hepatic ablation depends on different factors including the method used, the duration and intensity of the treatment and the presence or absence of ischemia. Little data have been published concerning the cytokine response elicited by hepatic microwave ablation (MWA). Study of an ex-vivo liver model could allow for the evaluation of this response without the influence of confounding systemic factors.

Methods: Livers explanted from 11 pigs were perfused extracorporeally with normothermic autologous blood. Four of them underwent MWA after one hour of reperfusion. Serum samples were obtained up to six hours after the reperfusion and assayed for IL-1ß, IL-2, IL-4, IL-6, IL-8, IL-10, IL-12, IFN-γ, TNF-α.

Results: Significant increases in both the control and the MWA group were observed for IL-8 and IL-10 after the first hour and IL-6 and IL-12 after the second hour compared to baseline levels (p<0.001). In the MWA group IL-6 and IL-10 were also raised compared to controls (p<0.001).

Conclusions: The ex-vivo perfused liver model demonstrated changes in levels of IL-6 and IL-10 following hepatic MWA compared to controls. Future studies shall now compare this response to other ablative techniques and the eventual clinical implications.

10.14 Systematic review and meta-analysis of liver resection vs. radiofrequency ablation for hepatic tumors: arguments favouring resective surgery

Gianpiero Gravante1, Wen Yuan Chung1, Roberto Sorge2, Cristina Pollard1, Matthew S Metcalfe1, David M Lloyd1, Ashley R Dennison1
1 Department of Hepatobiliary and Pancreatic Surgery, University Hospitals of Leicester, Leicester (United Kingdom)
2 Department of Human Physiology, Laboratory of Biometry, University of Tor Vergata, Rome (Italy)

Background: Evidence of improved survivals following ablation prompted calls for randomized trials comparing radiofrequency ablation (RFA) and hepatic resection (HR) in resectable tumours. The aim of this metaanalysis was to determine whether differences in survivals result from the heterogeneity in previous studies between RFA (treating unresectable lesions) and HR (treating lesions deemed resectable). We reviewed the literature directly comparing the treatments and employed metaanalysis to examine the data.

Methods: Primary outcomes were the overall survival (OS) and disease-free survival (DFS) at 3 and 5 years. A subgroup analysis was conducted for solitary or small tumours.

Results: For CRM, HR was markedly superior to RFA in respect of 3 and 5 years OS as well as 5 year DFS including tumours smaller than 4 cm and solitary lesions. For HCC, HR was markedly superior to RFA for 3 and 5 year OS as well as 3 year DFS, and produced a better OS at 3 years for solitary lesions and DFS at 3 years for small tumours. Conclusions: HR confers a better OS and DFS than RFA for both CRM and HCC. This is valid also for both small and solitary lesions.
10.15 Fatal hyperkalemia due to tumoral lysis syndrome during liver resection for large hepatocellular carcinoma

Amine Benkabbou¹, Almahdi Awab², Belkacem Zakri¹, Raouf Mohsine¹, Hadj Omar El Malki¹, Lahcen Ifrine¹, Abdelkader Belkouchi¹

¹Surgery A unit, ²Central resuscitation unit, Ibn Sina Hospital, Rabat (Maroc)

Background: Tumour lysis syndrome (TLS) is a life threatening oncologic emergency. It is caused by the release of intracellular metabolites into the circulation due to tumour necrosis. Severe TLS have been reported secondary to transarterial chemoembolization; sorafenib treatment and radiofrequency ablation for hepatocellular carcinoma (HCC) but it has never been described during liver resection.

Case report: A 58-year-old male underwent anterior approach right hepatectomy for large rapidly growing bifocal (23 cm and 15 cm) hepatocellular carcinoma (HCC) developed in non-cirrhotic liver. Biological preoperative assessment was normal. Selective right pedicle clamping was used. Two hours after uneventful procedure, ventricular fibrillation and asystolia occurred and did not respond to intensive resuscitation. Immediate postoperative laboratory tests showed severe hyperkalemia and hypocalcaemia. Massive tumour necrosis was confirmed in surgical specimen.

Conclusion: Important tumour mass, rapid growth, lack of preoperative treatment and dehydration or pre-existing renal insufficiency, are recognized risk factors for TLS. If liver resection is considered in these patients, monitoring of intraoperative serum potassium, TLS early recognition and treatment are mandatory. A liver vascular exclusion strategy may be considered to prevent potentially deleterious intracellular metabolites release into circulation.

10.16 Detection of P53 249SER polymorphism and HBV in Hepatocellular Carcinoma patients from Darfur

Badreldin Yousif, Salma Mahmoud, Hiba Salah

Department of Internal Medicine, University of Elfasher (Sudan)

Background: Hepatocellular carcinoma (HCC) is among the most lethal and prevalent cancers in the human population. HCC has been reported to show an increasing pattern in the past two decades especially in western Sudan, this alongside the recorded data of the high exposure to aflatoxin in that area may underlie possible relationship. Specific polymorphism at codon 249 of the P53 tumour suppressor gene was found to present in patients with hepatocellular carcinoma (HCC) in regions with high levels of dietary exposure to the fungal toxin aflatoxin B1. Our main objective in this study was to examine the presence of P53 codon 249 polymorphism and HBV in DNA samples of HCC patients from western Sudan, where incidence of HCC and HBV infection are very high in addition to high level of aflatoxin B1 exposure.

Methods: DNA was extracted from the serum of 58 patients with HCC and 40 control subjects was amplified by the polymerase chain reaction assay using primers specific for exon 7 of the P53 gene, and submitted to endonuclease cleavage with HaeIII to identify the 249serine P53 polymorphism using RFLP. HBV infection was detected using PCR.

Results: The specific polymorphism was detected in 5.1% of the HCC patients and no polymorphism was found among control subjects although all of them were exposed to high level of aflatoxin. Further experiments will be carried out for HBV detection.

Conclusions: The 249serine P53 polymorphism is found less often in HCC patients from western Sudan. Detection of P53 249 ser polymorphism & HBV in Hepatocellular Carcinoma patients in Darfur.
II.1 Imaging of pancreatic tumours in children

S Sedrati, N Allali, R Dafiri
Department of pediatric radiology, Children’s hospital, Rabat (Morocco)

Purpose: Pancreatic neoplasms are rare in children; aim of the study is to highlight the characteristic imaging findings of pancreatic tumours in the pediatric age group.

Materials and methods: A 10-year (2000-2010) retrospective review of 20 children (11 girls and 9 boys). The median age of patients was 10 years. The radiological investigation performed included ultrasound, computed tomography scans, and MRI.

Results: Clinical symptoms were dominated by jaundice. Pancreatic masses included 1 case of pancreatic adenocarcinoma, 1 of Franz tumour, 15 cases of NHL and 1 case of Hodgkin’s disease, 2 cases of metastatic neuroblastoma.

Conclusion: The pancreatic tumours in children are rare, and the most common is lymphoma. In children, abdominal US remains the initial screening method, followed by MRI as the imaging technique of choice to evaluate the characteristics and extension of the lesion. Adenocarcinoma and pseudopapillary tumour should be considered in the differential diagnosis of pediatric pancreatic masses, especially in adolescent females. Some characteristic radiological findings suggest the diagnosis, which should then be confirmed by biopsy before surgical resection is performed.

II.2 Contribution of Endoscopic Retrograde Cholangiopancreatography (ERCP) to the management of cancer of the pancreaticobiliary junction

H Massit, HF Seddik, FZ Elhamdi, A Benkirane
Gastroenterology Unit II, University Military Hospital Mohamed V, Rabat (Morocco)

Background: Cancers of the pancreaticobiliary junction (PBJ) are rare and have a poor prognosis. ERCP brings an important contribution to the management of this disease.

Materials and methods: A monocentric retrospective study was conducted over a period of 7 years (April 2003-November 2010) on 65 patients, 30 women and 35 men. The mean age was 54 years old (16-88 years old). All patients were presented with an obstructive jaundice related to a tumor of the PBJ; tumor of the head of the pancreas (17 cases), cholangiocarcinoma (30 cases), a tumor of the gallbladder (10 cases), ampullary cancer (3 cases), metastatic colon cancer invading the biliary tract (1 case), Burkett’s lymphoma (1 case). The diagnosis was made either by CT scan or by MRI.

Results: All patients benefited from ERCP to confirm the stenosis. 65 stents were placed with 5 changes of stents. The immediate success was noted in 78% of the patients, with a morbidity rate of 7% and an average hospital stay of 3 days.

Conclusion: Endoscopic palliative treatment of tumors of the PBJ is effective with a low morbidity rate and an acceptable cost in the medium and long term run.
12.1 Incidental gallbladder carcinoma diagnosed during or after cholecystectomy

Galab Mahamoud Hassan, M Raiss, M Ahallat, N Amrani
EFD-Hepatogastroenterology Unit, Surgery C Unit, Ibn Sina Hospital-UM5S, Rabat (Morocco)

Background: Gallbladder carcinoma is a rare and highly lethal neoplasm with a poor prognosis that depends on the stage at the time of the diagnosis. Since the wide acceptance of laparoscopic cholecystectomies, the incidental diagnosis of gallbladder carcinoma is more frequent. The aim of this study is to report our experience with gallbladder carcinoma during or after the performance of cholecystectomy.

Patients and methods: 986 cholecystectomies were carried out from December 1999 to December 2009. Were included all patients with diagnosis of gallbladder lithiasis who underwent cholecystectomy and we excluded patients with complicated gallbladder lithiasis or with other gallbladder disease.

Results: Of all the patients, 26 (2.6%) were histologically diagnosed as having a gallbladder cancer. There were 9 men (34.6%) and 17 women (65.4%), mean age was 52.7 years (range: 38-71 years). Laparoscopic cholecystectomy (LC) was practiced in 15% of the patients. Classic cholecystectomy was practiced in 85%. Depth of cancer invasion was: pT1: 2 cases, pT2: 5 cases, pT3: 10 cases, and pT4: 9 cases.

Conclusion: With the increased use of LC for presumed gallstone disease, the diagnosis and removal of gallbladder carcinoma in the earlier stages could be more frequent. The survival with incidental gallbladder carcinoma is related to stage.

12.2 Cancer de la vésicule biliaire dans la région de Marrakech: Expérience de 6 ans

K Elfadil, K Charaf, Z Samlani, A Diffaa, K Krati, A El Mahfoudi, A El Omrani, A Tahri
Service d’hépato-Gastro-entérologie, service d’onco-radiothérapie, CHU Mohamed VI, Marrakech (Maroc)

Le cancer de la vésicule biliaire représente 3.8 de l’ensemble des cancers digestifs. Il se situe au 5ème rang des tumeurs digestives. Le but de notre travail est d’analyser une série de 45 cas de tumeurs de la vésicule biliaire prouvées histologiquement, colligés sur une période de 6 ans entre janvier 2004 et décembre 2009 dans le service de gastro-entérologie du CHU Mohamed VI de Marrakech. L’âge moyen de nos patients était de 56.9 ans (34-80 ans), avec un sex ratio de 2.2. On a noté 93 % des cas des coliques hépatiques et dans 4.4 % des cas, la découverte était fortuite. Le délai moyen de consultation était de 13 mois (1 mois-3 ans). L’échographie réalisée chez tous les patients a révélé des lithiases vésiculaires dans 77.8 % des cas, des métastases hépatiques dans 55.6 % des cas, une atteinte ganglionnaire dans 35.6 % des cas et une dilatation des voies biliaires dans 31.1 % des cas. Le scanner avait été demandé chez 41 patients, une bili-IRM chez 2 patients. Il avait permis d’évoquer la présence d’un processus tumoral de la VB dans 95.1 % des cas. Quatre-vingt-onze pour cent des patients avaient été opérés. Dans 53.6 % des cas (22 patients), le geste opératoire s’était limité à une simple laparotomie exploratrice avec biopsie. Les gestes réalisés chez les 19 patients sont : 14 cholecystectomies dont 4 avec exérèse hépatique segmentaire, 4 dérivations bilio-digestives, 4 exérèses hépatiques segmentaires. Chez le reste, on a réalisé une biopsie transpariétale échoguidée. L’adénocarcinome a été retrouvé dans 100 % des cas. Seul 14 patients (33.3 %) on reçu une chimiothérapie. La survie moyenne était de 4 mois. Le cancer de la vésicule biliaire est une tumeur rare et de mauvais pronostic. L’extension rapide explique l’inaccessibilité chirurgicale fréquente. En pratique, le diagnostic est suspecté par une échographie. L’examen anatomopathologique systématique de la pièce de cholecystectomie permet de réaliser un diagnostic précoce.
## Poster Session

All poster presenters are asked to sign up at the poster information booth on the day of their poster presentation from 08:00-09:00.

Contact persons on site for assistance are: T. Dakka, I. Serraj, M. Guedira, L. Amrani

### Attention

- Posters should not exceed the following dimensions: **120 cm in length and 90 cm in width**
- The poster walls is situated in the Poster Exhibition Hall located on the premises
- Poster presenters are required to be present at their posters during the coffee and lunch breaks for discussion with participants and faculty of the meeting
- Posters should be hanged according to the following dates and time:

### Friday, February 4, 2011

<table>
<thead>
<tr>
<th>General considerations</th>
<th>Poster number: 1-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagus</td>
<td>Poster Numbers: from 2-1 to 2-7</td>
</tr>
<tr>
<td>Stomach – Duodenum</td>
<td>Poster Numbers: from 3-1 to 3-37</td>
</tr>
</tbody>
</table>

Posters can be set up on the: 
Friday January 4, 2011 between 08:00-09:00 am
Posters must be dismantled on: 
Friday February 4, 2011 at 06:00 pm

### Small bowel
- Poster Numbers: from 4-1 to 4-4

### Colon – Rectum
- Poster Numbers: from 5-1 to 5-23
- Poster Numbers: from 6-1 to 6-6
- Poster Numbers: from 7-1 to 7-4
- Poster Numbers: 8-1 and 8-2

### Anus
- Poster Numbers: 9-1 and 9-2
- Poster Numbers: from 10-1 to 10-15
- Poster Numbers: 11-1 and 11-2
- Poster Numbers: 12-1 and 12-2

### Saturday, February 5, 2011

Posters can be set up on: 
Saturday February 5, 2011 between 08:00-09:00 am
Posters must be dismantled on: 
Saturday February 5, 2011 at 06:00 pm

### GIST
- Poster Numbers: from 7-1 to 7-4

### Endocrine Tumours
- Poster Numbers: 8-1 and 8-2

### Desmoplastic tumours, parangangioma
- Poster Numbers: 9-1 and 9-2

### Liver
- Poster Numbers: from 10-1 to 10-15

### Pancreas
- Poster Numbers: 11-1 and 11-2
- Poster Numbers: 12-1 and 12-2

### Gallbladder
CONGRESS INFORMATION

Airport
Rabat-Salé airport is located at 10 km from the city centre. Casablanca airport is situated at 120 km from Rabat. It is connected to the railways by a frequent shuttle service.

Banks and credit cards
The main credit cards are accepted in the hotels and most shops and restaurants (Visa, American Express, Eurocard, Mastercard...). Exchange is possible in hotels and banks at the official rate. We recommend keeping your receipt of change to reconvert your dirhams before leaving Morocco.

Certificates
A certificate of attendance will be provided for participants upon request.
A certificate of participation (oral communication and poster) will be available for all presenters in the secretariat office.

Congress bags
Participants receive their congress bag in exchange of the voucher included in the participants’ documents. The bag distribution point is located in the entrance hall of TGR Hay Riad.

Congress languages
All sessions will be in English. Simultaneous translation in French will be provided for the Plenary Sessions.

Climate
Winter is generally mild in January in Rabat. Nights are cool to cold and often humid. The temperature is generally between 10°C at night and 18°C during the day.

Dates
The congress will be held on Friday, February 4th and Saturday 5th, 2011. Registrations start on Thursday, February 3rd, 2011 from 17h00 to 19h00, Friday, February 4th and Saturday, February 5th, 2011 from 07h30 at the TGR-Hay Riad in Rabat.

Hotel accommodation
The hotel accommodation is available on the website http://amdca2011.um5s.net.ma.
For information please contact the agency office:
Excellence Evénement
Lot. Nasim N°284/2 - Casablanca (Morocco)
Tel.: + 212 522 26 73 83 - Fax: + 212 522 26 73 83
E-mail: excellence.evenements@gmail.com
www.excellence-evenements.com

Lunch
Work lunches will be provided on site. Lunch tickets will be available at the registration desk.

Messages
Messages for the participants can be collected from the secretarial office.

Name badges
A name badge will be provided on site with the Congress documentation. Wearing this badge is required in order to enter the session rooms and all other organised events.

Poster presentations
Posters will be displayed on Friday and Saturday in the technical exhibition area and will be changed daily. Poster Rounds will be held during the lunch period. Selected experts will visit groups of posters when the presenter will be expected to give a 1-2 minute summary of the major findings described in the poster. The experts will lead the discussion with other members attending the poster session. It is the responsibility of the presenter to ensure that at least one of the authors is present during the lunch session to take part in the poster discussion.

Projection
Video projectors and PC computers are available in the presentation rooms.

Publication of presentations
The presentations may be published in Cancero digest after acceptance of the authors and submission to referees. They may also be published on the Centre website after acceptance of the authors: www.centreomge-rabat.org

Technical exhibition
A large space is available for the Pharmaceutical Exhibition, which will take place during the Congress. Its location will be integrated within the main Congress areas. It will be a major event of the Congress.
The exhibition will offer an excellent opportunity for companies to display their products and for delegates to become aware of the newest medicines, equipment and technologies. Representatives will be happy to answer all your questions.
The exhibition will be open every day from 9h00 to 18h00.

Secretarial office
Situated at the entrance of the TGR-Hay Riad.

Shuttle bus service
Shuttle Bus Service will be available for Congress participants between the Congress place and all official hotels.

Social program, transportation and tours
Transportation and excursions form is available on the website
For information please contact Altair Tours international
467, avenue Mohamed V, Rabat 10000 (Morocco)
Tel: 00212 537 729940 – Fax: 00212 537
E-mail: Altair@menara.ma – Drafathermid@gmail.com
www.jevoyage.ma

Smoking policy
Smoking is not allowed in the meeting room, the exhibition, and poster areas, including hospitality room, registration area, and halls.

Time difference
Morocco is at GMT.
Le comité de rédaction de Cancéro digest souhaite recueillir vos impressions, vos remarques et vos critiques sur ce numéro ainsi que vos suggestions pour les numéros futurs, ceci afin d’améliorer cette revue scientifique de formation et d’actualités, et de l’adapter au besoin de ses lecteurs. N’hésitez pas à nous contacter par E-mail : gerard.lledo@orange.fr
Instructions aux auteurs

Soumission des manuscrits

Les auteurs s’engagent à soumettre des publications originales non publiées dans une autre revue. Les articles seront soumis à deux lecteurs indépendants.

Tous les textes sont à fournir en français ou en anglais sous format électronique de préférence Word (.doc) et présentés en interligne double. Ils seront adressés à aln.editions@wanadoo.fr.

Les tableaux, à condition qu’ils soient réalisés sous un format tableau, peuvent être intégrés à l’article. Ils doivent être numérotés et comporter un titre. Les figures de haute résolution (300 dpi) sont à fournir sur un document électronique à part mais doivent être mentionnées dans le texte. Elles sont limitées à 6 par article. Les noms des patients ne doivent pas apparaître. Les formats admis sont : pdf, doc, ppt, jpg, gif.

Composition de l’article

– Titre (en français et en anglais)
– Nom des auteurs : Prénom complet et nom
– Provenance de l’auteur (hôpital, institution, ville, pays etc.)
– Coordonnées complètes de l’auteur (adresse, téléphone, E-mail)
– Résumé en français et en anglais n’excédant pas 250 signes, sans références et comprenant 4 chapitres :
  Introduction, Matériel et méthodes, Résultats, Conclusion.
– Mots-clés conformes à l’Index Medicus (en français et en anglais) : de 3 à 8.

L’article reprendra les chapitres énoncés dans le résumé. Les figures seront indiquées comme suit : (Fig. 1…). ; les références sont mentionnées par un chiffre entre crochets, par ex. [21].

Références


Les références de l’article doivent être présentées dans l’ordre où elles apparaissent dans le texte. Tous les auteurs doivent être cités jusqu’à 6. S’il y a plus de 6 auteurs, on peut se contenter de citer les 3 premiers suivis d’une virgule puis de et al. Les titres des périodiques seront abrégés suivant les normes de l’Index Medicus. S’ils sont connus, les DOI doivent être cités.

Voici quelques exemples de références. Merci d’être vigilant quant à la ponctuation. Seules sont admises les références d’articles déjà publiés.


Abréviation

Elles doivent apparaître entre parenthèses après leur première apparition dans le texte. Les noms de médicaments sauf s’il s’agit de génériques doivent être suivis du signe ®.

Autorisation de reproduction d’un document déjà publié

En cas de reprise d’illustrations déjà publiées, l’auteur s’engage à fournir une autorisation de reproduction écrite de l’éditeur et à citer la source du document.

Droit de reproduction de l’article

Dès publication de l’article, l’auteur est réputé avoir cédé ses droits à l’éditeur qui traitera seul les demandes de reproduction.

Conseils pédagogiques

Les textes publiés dans la revue Cancéro digest doivent avoir une réelle valeur pédagogique. Pour cela, les auteurs doivent garder deux notions à l’esprit lors de la rédaction :

1. être accessibles et attractifs au plus grand nombre. Pour cela, ils doivent être, autant que possible, concis, aérés, et assortis de schémas et/ou de figures, à buts notamment pratiques. Par exemple, l’analyse détaillée d’études argumentant les propos peut être avantageusement remplacée par une synthèse des résultats, notamment sous forme de tableaux. Bien entendu, le parti pris de concision ne dispense pas d’appuyer et d’argumenter les assertions par une bibliographie n’excluant aucun article important et récent, notamment les mises au point parues dans des revues de haut niveau, auxquelles le lecteur « voulant en savoir plus » pourra se reporter ;

2. il est évidemment souhaitable de faire état des nouveautés, innovations, et hypothèses récentes, il convient de différencier clairement dans les textes, d’une part, ce qui est du domaine des connaissances acquises et validées et, d’autre part, ce qui est encore du domaine des hypothèses et de la recherche. Par exemple, un expert rédigant un texte sur une modalité thérapeutique doit distinguer précisément les indications validées au moment de la publication en précisant, si possible, le niveau de preuve et/ou les textes de recommandation et, si elles sont consensuelles, des indications potentielles en cours d’évaluation dans des essais.
City map of Rabat