

Leukaemia Section

Mini Review

dic(7;9)(p11-13;p11)

Sabine Strehl

Children's Cancer Research Institute, Kinderspitalgasse 6, A-1090 Vienna, Austria

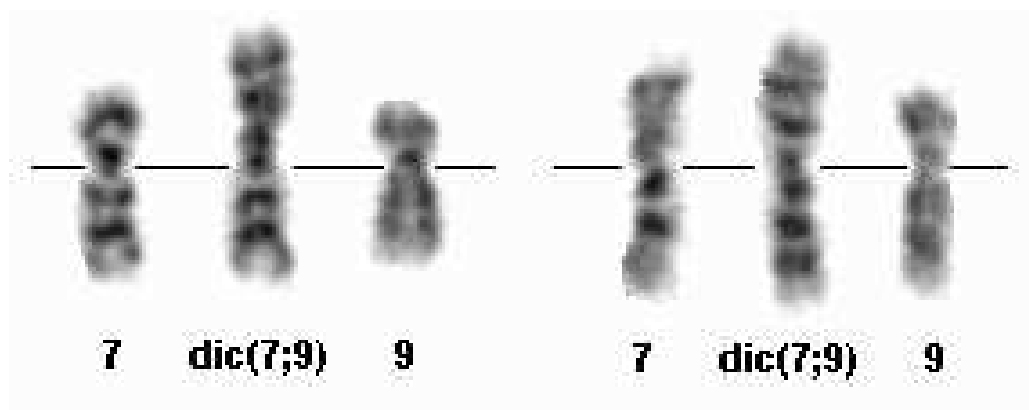
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Identity



dic(7;9)(p11-13;p11) G-banding - Courtesy Cytogenetics Laboratory of the CCRI, Children's Cancer Research Institute, Vienna.

Clinics and pathology

Disease

ALL

Phenotype / cell stem origin

FAB L1 phenotype; pre-B immunophenotype, cIg+ or cIg-

Epidemiology

<1% of childhood ALL, age ≤6 years; 3% of childhood ALL with 9p abnormalities; rarely also found in elderly ALL patients; occasionally associated with Ph+ ALL.

Clinics

Organomegaly

Prognosis

Unknown

Cytogenetics

Note: Several dicentric chromosomes found in childhood ALL are formed from the q arms of chromosomes 7, 9, 12, and, 17 with partial loss of the respective p arms.

Cytogenetics, morphological

Unbalanced; formation of a dicentric chromosome resulting in partial monosomies of 7p and 9p → hypodiploid with 45 chromosomes

Additional anomalies

del(6q), dup(1p), del(8)(p22), ...

Genes involved and Proteins

Note: Genes involved are unknown.

References

Diaz MO, Rubin CM, Harden A, Ziemins S, Larson RA, Le Beau MM, Rowley JD. Deletions of interferon genes in acute lymphoblastic leukemia. *N Engl J Med*.1990;322:77-82.

Raimondi SC, Behm FG, Roberson PK, Williams DL, Pui CH, Crist WM, Look AT, Rivera GK. Cytogenetics of pre-B-cell acute lymphoblastic leukemia with emphasis on prognostic implications of the t(1;19). *J Clin Oncol* 1990;8:1380-1388.

Raimondi SC, Privitera E, Williams DL, Look AT, Behm F, Rivera GK, Crist WM, Pui CH. New recurring chromosomal translocations in childhood acute lymphoblastic leukemia. *Blood* 1991;77:2016-2022.

Collaborative study of karyotypes in childhood acute lymphoblastic leukemias. Groupe Français de Cytogénétique Hématologique. *Leukemia* 1993;7:10-19.

Uckun FM, Nachman JB, Sather HN, Sensel MG, Kraft P, Steinherz PG, Lange B, Hutchinson R, Reaman GH, Gaynon PS, Heerema NA. Clinical significance of Philadelphia chromosome positive pediatric acute lymphoblastic leukemia in the context of contemporary intensive therapies: a report from the Children's Cancer Group. *Cancer* 1998;83:2030-2039.

Wong N, Chen SJ, Cao Q, Su XY, Niu C, Wu QW, Leung TW, Wickham N, Johnson PJ, Chen Z. Detection of chromosome over- and underrepresentations in hyperdiploid acute lymphoblastic leukemia by comparative genomic hybridization. *Cancer Genet Cytogenet* 1998;103:20-24.

Heerema NA, Sather HN, Sensel MG, Liu-Mares W, Lange BJ, Bostrom BC, Nachman JB, Steinherz PG, Hutchinson R, Gaynon PS, Arthur DC, Uckun FM. Association of

chromosome arm 9p abnormalities with adverse risk in childhood acute lymphoblastic leukemia: A report from the Children's Cancer Group. *Blood* 1999;94:1537-1544.

Nacheva EP, Gribble S, Andrews K, Wienberg J, Grace CD. Screening for specific chromosome involvement in hematological malignancies using a set of seven chromosome painting probes. An alternative approach for chromosome analysis using standard FISH instrumentation. *Cancer Genet Cytogenet* 2000;122:65-72.

Thomas X, Olteanu N, Charrin C, Lhéritier V, Magaud JP, Fiere D. Acute lymphoblastic leukemia in the elderly: The Edouard Herriot Hospital experience. *Am J Hematol* 2001;67:73-83.

Raimondi SC, Zhou Y, Mathew S, Shurtleff SA, Sandlund JT, Rivera GK, Behm FG, Pui CH. Reassessment of the prognostic significance of hypodiploidy in pediatric patients with acute lymphoblastic leukemia. *Cancer* 2003;98:2715-2722.

Heerema NA, Nachman JB, Sather HN, La MK, Hutchinson R, Lange BJ, Bostrom B, Steinherz PG, Gaynon PS, Uckun FM. Deletion of 7p or monosomy 7 in pediatric acute lymphoblastic leukemia is an adverse prognostic factor: a report from the Children's Cancer Group. *Leukemia* 2004;18:939-947.

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