

Leukaemia Section

Short Communication

11p15 rearrangements in treatment related leukemia

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Identity

Note: This data is extracted from a very large study from an International Workshop on treatment related leukemias - restricted to balanced chromosome aberrations (i.e.: -5/del(5q) and -7/del(7q) not taken into account per se), published in Genes, Chromosomes and Cancer in 2002.

Clinics and pathology

Disease

Treatment related myelodysplasia (t-MDS) or acute non lymphocytic leukaemias (t-ANLL).

Note

The study included 17 cases; t-MDS without progression to ANLL accounted for 35%, t-MDS with progression to ANLL for 18% and t-ANLL for the remaining 47% (M2 or M4 mainly); no case of acute lymphoblastic leukaemia.

Epidemiology

11p15 rearrangements were found in 3% of t-MDS/t-ANLL and have been reported to be found in 5% of childhood t-MDS/t-ANLL; sex ratio: 4M/13F.

Clinics

Age at diagnosis of the primary disease 45 yrs (range 2-70); age at diagnosis of the t-MDS/t-ANLL: 50 yrs (range 4-75). Median interval was short: 54 mths (range: 11-189). Primary disease was a solid tumor in 47% of cases (in particular breast cancer) and a hematologic malignancy in 53%, treatment was chemotherapy (42%), or both chemotherapy and radiotherapy (58%). Treatment included topoisomerase II inhibitors in 71% of cases and alkylating agents in 76%.

Prognosis

Median survival was 13 mths, with 56% of patients surviving at 1 yr, and 33% at 2 yrs, a similar survival to what is found in treatment related leukemias with a 21q22 rearrangement.

Cytogenetics

Additional anomalies

11p15 rearrangements included inv(11)(p15q23) in 35% of cases, t(7;11)(p15;p15) in 18%, or, more rarely: t(1;11)(p32;p15), t(2;11)(q31;p15), t(4;11)(q22;p15), t(10;11)(q22-23;p15), t(11;17)(p15;q21), or t(11;20)(p15;q11); additional anomalies were: -7/del(7q) in 24%, and -5/del(5q) in 12%. Complex karyotypes were found in 18%.

Result of the chromosomal anomaly

Hybrid gene

Description

5' NUP98 -3' partner.

References

Block AW, Carroll AJ, Hagemeijer A, Michaux L, van Lom K, Olney HJ, Baer MR. Rare recurring balanced chromosome abnormalities in therapy-related myelodysplastic syndromes and acute leukemia: report from an international workshop. *Genes Chromosomes Cancer*. 2002 Apr;33(4):401-12

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