

## 11p15 rearrangements in treatment related leukemia

### 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** 5' [NUP98](#) -3' partner  
**Description**

### Bibliography

**Rare recurring balanced chromosome abnormalities in therapy-related myelodysplastic syndromes and acute leukemia: report from an international workshop.**

Block AW, Carroll AJ, Hagemeijer A, Michaux L, van Lom K, Olney HJ, Baer MR.  
Genes Chromosomes Cancer 2002; 33: 401-412.

Medline [11921274](#)

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