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Molecular and chromosomal mutations among children with B-lineage lymphoblastic leukemia in Brazil's Federal District

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ABSTRACT. Acute lymphoblastic leukemia (ALL) accounts for approximately 80% of all acute leukemias during childhood. Chromosomal anomalies resulting from gene fusion, which are frequent in leukemias, create hybrid transcripts, the great majority of which encode transcription factors. We analyzed 88 pediatric patients (median age 7.3 years) who had B-lineage acute lymphoblastic leukemia (B-ALL), using reverse tran-

scriptase-polymerase chain reaction, to look for gene fusion transcripts of *TEL/AML1*, *E2A/PBX1*, *BCR/ABL* p190, and *MLL/AF4*. The frequencies of these transcripts were 21.21, 9.68, 3.03, and 0%, respectively. All positive cases had a common B-ALL immunophenotype. The low frequency of the *TEL/AML1* transcript that is found in developing countries, such as Brazil, may be due to the low incidence of leukemia; this would support Greaves' hypothesis.

Key words: Acute lymphoblastic leukemia; Cytogenetics; Reverse transcriptase-polymerase chain reaction; Chromosomal anomalies; Hybrid transcripts

