ONCODAILY MEDICAL JOURNAL

abstract

Prognostic Implication of t(1;19) in Pediatric Pre-B Acute Lymphoblastic Leukemia: A Nationwide Study

Ibrahim Sanduqji, Ali Algiraigri

doi.org/10.69690/ODMJ-018-0425-436

SIOP ASIA 2025
SAUDI ARABIA

ONCODAILY MEDICAL JOURNAL

SIOP ASIA 2025 SAUDI ARABIA

Prognostic Implication of t(1;19) in Pediatric Pre-B Acute Lymphoblastic Leukemia: A Nationwide Study

Author: *Ibrahim Sanduqji [1], Ali Algiraigri*

Affiliation: *[1] Aga Khan University Hospital, Karachi, Pakistan*

DOI: *https://doi.org/10.69690/ODMJ-018-0425-436*

Introduction: Recurrent translocation t(1;19) (q23;p13) describes a unique cytogenetic group of childhood B-cell acute lymphoblastic leukemia (ALL). Historically, t(1;19)(q23;p13.3) has been associated with poor outcomes. However, recent data suggests that currently intensified treatments have overcome this dismal prognosis. We conducted this study to understand this type of translocation in our population. From January 1999 until May 2020, 44 children with t(1;19) were identified by cytogenetics analysis during chart review.

Methodology: Cytogenetics (CG) testing results (Karyotype and/or FISH) were retrieved from the medical files on 37/44 patients.

Results: Of the 37 patients with Cytogenetics results, a total of 12 patients were found to have t(1;19) (q23;p13.3) as the only detectable genetic change, 13 patients were presented with t(1;19)(q23;p13.3) plus further chromosomal rearrangement (Table 1), 12 patients were presented with a variation involving t(1;19)(q23;p13.3) with or without additional chromosomes rearrangement.

Patients were treated on different protocols, yet most were derived from the North American guidelines. Among the included subjects, relapse or refractory disease was identified in 15 cases (34%), and 12 died due to progressive refractory leukemia. At the five-year mark, the estimated overall survival rate stood at 72%. No statistical difference existed between patients treated on the high-risk (HR) protocol and those treated on the standard-risk (SR) protocol. It appeared that t(1,19) standard risk ALL had more relapses on the standard risk protocol. Furthermore, Relapses were mostly earlier and poorly salvageable. As such, treatment intensification for standard risk ALL with t(1,19) is warranted.