

EPIDEMIOLOGICAL AND CLINICAL PROFILE OF PEDIATRIC PATIENTS WITH T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA IN A REGIONAL ONCOLOGY REFERENCE HOSPITAL IN NORTHERN BRAZIL

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Introduction: T-cell acute lymphoblastic leukemia (T-ALL) is an aggressive subtype of ALL, accounting for 10–25% of cases, with a predominance in children and adolescents. It is associated with higher rates of induction failure and early relapse compared to B-cell ALL (B-ALL). In Brazil, data on T-ALL remain scarce, particularly in regions with low population density and limited access to pediatric oncology services, such as the Northern region. This gap hampers a comprehensive understanding of its epidemiology and may exacerbate disparities in clinical outcomes. **Objectives:** This study aimed to characterize the clinical and epidemiological profile of pediatric patients with T-ALL treated at a regional pediatric oncology referral center. **Methods:** This was a cross-sectional, retrospective, and quantitative study, approved by the Research Ethics Committee of the Federal University of Pará (approval number 119.649). Medical records of 137 ALL patients treated at the Octavio Lobo Pediatric Oncology Hospital (Belém, Pará, Brazil) between 2015 and 2018 were analyzed according to the BFM-2002 and St. Jude Children's Research Hospital (SJCRH) protocols. Statistical analysis was conducted using R software (version 4.3.3). **Results:** Among the patients, 123 (89.8%) had B-ALL and 14 (10.2%) had T-ALL. In the T-ALL group, the mean age was 5.6 ± 3.9 years, with a predominance of males (12 patients; 85.7%). The mean initial leukocyte count was $108,024/\text{mm}^3$, hemoglobin level was 8.9 g/dL, and platelet count was $58,144/\text{mm}^3$. The most frequent treatment-related toxicities were infectious (11 patients; 78.6%), hematological (9 patients; 64.3%), gastrointestinal (8 patients; 57.1%), and central nervous system (5 patients; 35.7%). The mortality rate in this group was 21.4% (3 patients), and the relapse rate reached 28.6% (4 patients). **Conclusion:** The findings reinforce the clinically aggressive nature of T-ALL and highlight the need to improve early diagnosis and access to specialized care in regions with heightened healthcare vulnerability. Despite the limitation of a small sample size, the findings contribute valuable insights into regional disparities in pediatric oncology care.

Keywords: T-cell Acute Lymphoblastic Leukemia; Pediatric Oncology; Regional Epidemiology.