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A COMPREHENSIVE RETROSPECTIVE ANALYSIS OF CASES FROM 2020-2022 IN CHILDREN WITH RELAPSED ACUTE LEUKEMIA: TEMPORAL TRENDS AND CLINICAL CHARACTERISTICS

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INTRODUCTION

Despite advancements in childhood leukemia treatment, relapses remain challenging particularly in resource-limited settings. Understanding and managing pediatric patients is vital for optimizing their care.

AIM

We aimed to enhance our understanding by examining three years of data, providing valuable insights to improve the care.

METHOD

We analyzed the data of newly diagnosed relapses (both ALL and AML) over a three-year (2020-2022) period. Comprehensive review of medical records was conducted to identify patients and extract information.
A single-institution study in Armenia provides a detailed analysis among pediatric patients with relapses, applicable to similar healthcare settings.

RESULTS

Collectively 11 patients were identified, ranging in age (1-18), who experienced relapsed acute leukemia (median age at relapse was 9 years). Relapse was categorized into three groups: "very early" (VER), "early" (ER), and "late" (LR). We found that five patients (45.45%) were diagnosed with VER, five patients (45.45%) with ER, and one patient (9.09%) with LR. The male-to-female ratio was approximately 2.67 to 1. The median time from diagnosis to relapse was 19 months. Most frequent site of relapse was bone marrow (54.54%),

followed by combined extramedullary plus bone marrow relapse (27.27%) while isolated extramedullary site relapse was the least common (18.18%). Patients with ALL received first-line treatment according to ALL IC-BFM 2002, ALL IC-BFM 2009, and EsPhALL2010 protocols. Patients with AML were treated with PETHEMA/HOVON,AML-BFM-2004, and AML-MRD-2018 protocol (depending on the diagnosis year and treatment protocol in Armenia).



CONCLUSIONS

This study provides insight into the relapse patterns of acute childhood leukemia ,demonstrating a higher incidence in the 'very-early' and 'early' stages. Timely identification, implementation of appropriate treatment, and vigilant symptom monitoring are imperative for optimizing outcomes. Further research is necessary to validate and assess survival.

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