OUR EXPERIENCE
TREATING CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA IN ARMENIA

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The Pediatric Cancer and Blood Disorders Center of Armenia, Hematology Center named after Prof. R. H. Yeolyan | SOHO 2022

Background

Acute lymphoblastic leukemia (ALL) is the most common type of childhood cancer. The 5-year-survival rate for ALL in high-income countries is close to 85%. However, this rate is much lower in low- or middle-income countries. In Armenia, the 5-year survival rate for children with ALL has greatly increased over time, and it is estimated at about 75%.

Objective

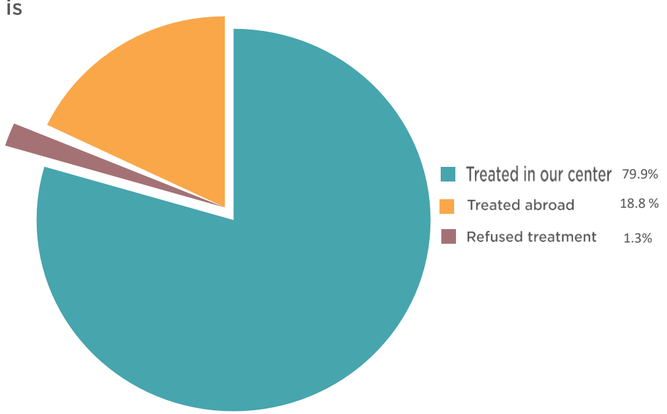
This study aims to evaluate the clinicopathological features and treatment outcomes for childhood ALL in the Pediatric Cancer and Blood Disorders Center of Armenia (PCBDCA) at the Hematology Center (HC) named after Prof. R. Yeolyan.

Materials & Methods

A retrospective analysis of pediatric patients diagnosed with ALL at PCBDCA from 2010 to 2021 was performed.

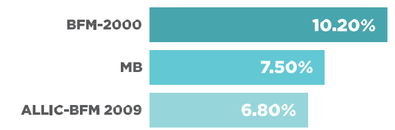
Results

The total number of pediatric leukemia cases was 333. Among them, 13.5% (45) were acute myeloblastic leukemia (AML) and 86.5% (288) were ALL. Only 79.9% (230) of diagnosed ALL patients received treatment at HC; 1.3% (4) of patients refused treatment and 18.8% (54) received treatment abroad.

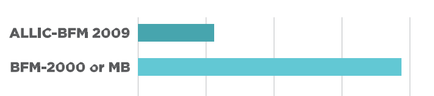


ALL Treatment (2010-2021)

From 2010 to 2018, the number of patients was 147; 48.6% (107) of them received standardized treatment according to the BFM-2000 intermediate-risk group protocol, and 18.3% (40) of patients were treated with the Moscow–Berlin (MB-2015) protocol. From 2019 to 2021, 73 patients received treatment based on the ALLIC-BFM 2009 protocol in accordance with risk groups; 21.9% (16) of the patients were classified as a high-risk group and 78.1% (57) as an intermediate-risk group, and there were no patients treated as a standard-risk group. From 2010 to 2018, the relapse rate was 19.0% (28), 50% (14) of which were early relapses, and 5.4% (8) were refractory to treatment. The mortality rate was 26.5% (39). Treatment-related mortality (TRM) of all patients was 9.5% (14): 7.5% (3) of the MB-2015 protocol and 10.2% (11) of the BFM-2000 protocol. The mortality rate related to the ALLIC-BFM 2009 protocol was 6.8% (5). The relapse rate was 5.5% (4); all were early relapses, and 2.73% (2) were TRM.



Treatment-Related Mortality



Relapse Rate by Protocol

Discussion & Conclusions

Armenia is a developing county, and over the decades, there have been treatment and survival overall improvements in children with ALL in Armenia. However, several diagnostic and therapeutic challenges remain to be addressed.