



Acute Lymphoblastic Leukemia: Clinical Characteristics and Survival in a Private Health Care Program Population in Argentina

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Background

Acute lymphoblastic leukemia (ALL) comprises <1% of adult cancers and represents the most common childhood malignancy. Childhood leukemia survival is better than that of adults, with 5-year survival rate >85% compared to 50%. Available ALL data is mainly from pediatric populations in European countries and the United States. Argentinian data is scarce.

Objective

Describe clinical characteristics and calculate one-year survival rate in ALL patients

Materials & Methods

We designed a retrospective cohort study between January 1st, 2010 and December 31st, 2019. The study was conducted at Hospital Italiano de Buenos Aires. All adult and pediatric patients in the Italian Hospital Medical Program with ALL according to WHO criteria were included. Overall survival (OS) time was estimated one year from diagnosis, expressed as one-year follow-up. Fatality rate was calculated as incident cases per 100 person-years with ALL diagnosed during the entire study period, with their respective 95% CI. Survival graphs were made according to the Kaplan Meier method. An age-stratified analysis was performed.

Results

- 22 ALL patients were included, 7 were pediatric (Under 17 years old) and 15 adults. The baseline characteristics are presented in Table 1. Only 1 patient was in the AYA subgroup (15–40 years). No patient presented central nervous system involvement.
- Figure 1 shows survival curves among age strata. Survival analysis is summarized in table 2. Among pediatric group, only 1 patient died, 24 months after diagnosis due to disease relapse. All patients up to 17 years of age were alive at one-year follow-up. In adults group, 9 patients died (64.28%).

Table 1. Baseline Characteristics

Variable	Pediatrics (n=7)	Adults (n=15)	All (n=22)
Median age, (IQR)	6.63 (2.51- 10.38)	64.30 (43.41- 80.42)	43.22(10.35-75.45)
Sex Male, n (%)	4 (57.1)	8 (53.3)	12 (54.55)
WHO classification, n(%)			
LLA B NOS	6 (85.7)	12(80)	18(81.82)
LLA B BCR-ABL1	1 (12.50)	2(14.29)	3(13.64)
LLA T	0	1(6.7)	1(4.55)
Immunophenotype, n (%)			
B NOS	0	1(6.7)	1 (4.55)
B Common	7 (100)	10 (66.7)	17 (73.3)
Pre B	0	1 (4.5)	1 (4.5)
Pro B	0	2 (13)	2 (9.1)
Pre T (II)	0	1 (6.7)	1 (4.55)
Cytogenetic,n (%)			
Normal	1 (14.3)	5 (26.7)	5 (22.73)
t (9; 22)	1(14.3)	2 (13.3)	3 (13.64)
Complex	0	2 (13.3)	2 (9.1)
Other	1(14.3)	4 (26.7)	5 (22.73)
No data	1(12.50)	0	1 (4.55)
Growth Failure	3 (42.9)	3 (20)	6 (27.27)

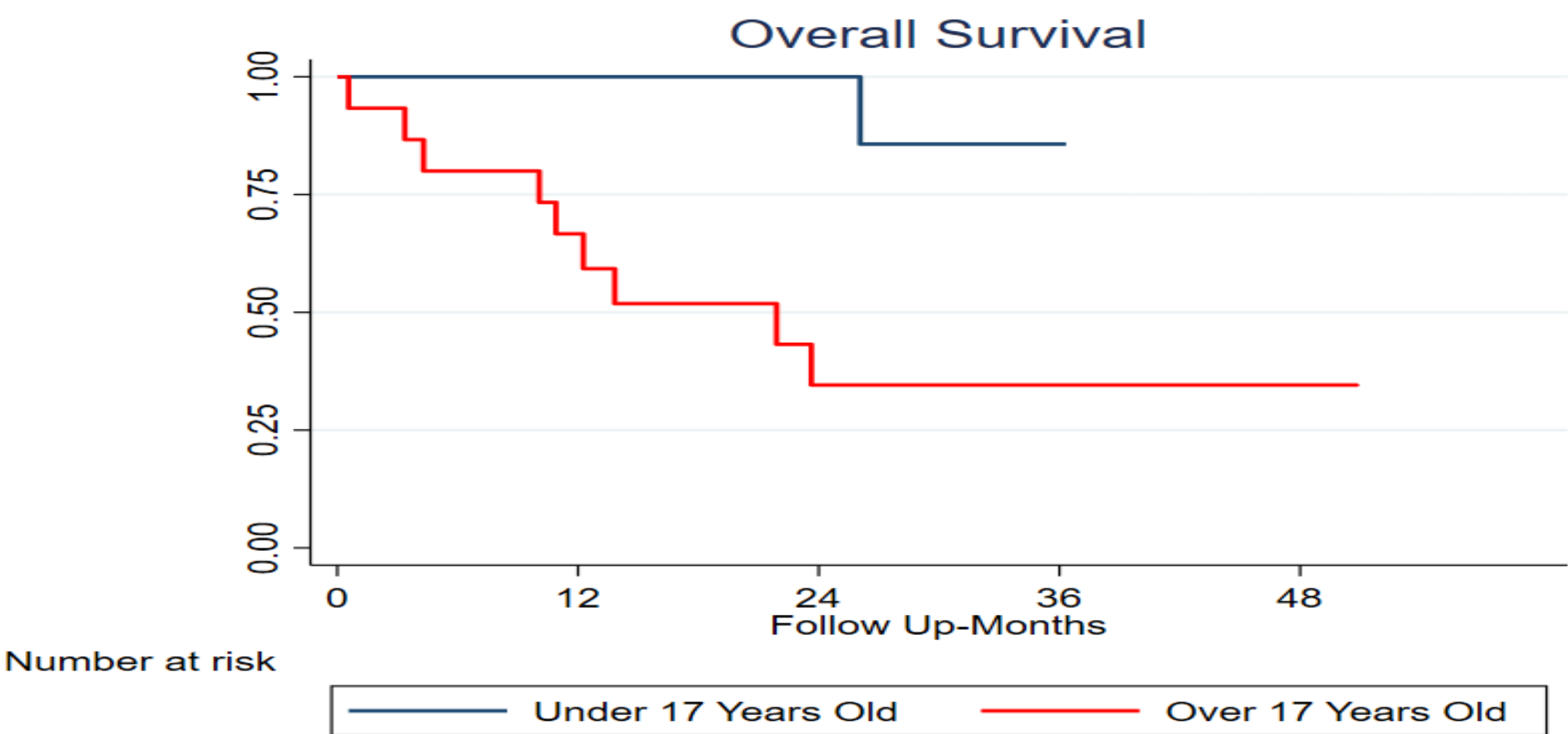


Tabla 2. Survival analysis

Patient group	Median follow-up, years (IQR)	Fatality rate per 100,000 person-years (95% CI)	% of Overall survival at 1 year (95% CI)
Under 17 years old	6.74 (4.42–9.54)	18 (0.2–13)	*
Over 17 years old	1.08(0.84–1.97)	44.65 (23.23–85.81)	64% (34–83)
All ages	1.97(1.01– 5.83)	13.4 (7.2-24.9)	77% (53-89)

* Could not be calculated as all patients were alive at 1 year

Discussion

The age at diagnosis was higher in our cohort due to the older population of our healthcare program system. The overall survival rate at one year for the entire cohort and stratified by age was greater than 50%, with a better prognosis and survival rate among the population aged 17 years or younger. We do not have data on patients in the AYA subgroup.

Larger descriptive and comparative studies are necessary to establish epidemiological features useful for our health care program and to determine prognosis and guide management decisions in our population.

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