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POSTER ABSTRACTS

614.ACUTE LYMPHOBLASTIC LEUKEMIAS: THERAPIES, EXCLUDING TRANSPLANTATION AND CELLULAR IMMUNOTHERAPIES

Survival Analysis of Adults with Acute Lymphoblastic Leukemia in Ecuador

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Background

Acute lymphoblastic leukemia (ALL) is the second most common acute leukemia in adults. Unfortunately, in Ecuador there are no survival studies in patients ≥15 years with ALL, thus, this is the first national report. The aim of the study was to describe clinical-demographic characteristics and overall survival (OS).

Methods

Medical records of 628 patients from 8 reference hospitals in Ecuador with acute lymphoblastic leukemia (ALL) aged ≥15 years, diagnosed between January/2015 and December/2022, were retrospectively reviewed. A high-risk group was defined as: age ≥ 35 years ; ≥ 30,000/mm3 leukocytes in B-cell acute lymphoblastic leukemia (B-ALL) or ≥ 100,000/mm3 leukocytes in T-cell acute lymphoblastic leukemia (ALL- T) ; CNS infiltration at diagnosis, and/or if EMR was not reached (<0.01%) negative at the end of induction. If none of these factors were present, it was classified as standard risk. OS and treatment-related mortality were evaluated. Before carrying out this study, the approval of a national research ethics committee was obtained, as well as the approval of the 8 participating centers.

Results

628 patients with ALL were included in the study. Summary of clinical and demographic data Table 1. In this cohort of patients, 9 different regimens of intensive chemotherapy were used. 454/517 (87.8%) patients with B-ALL were considered high risk. 595/628 (94.5%) patients received intensive chemotherapy. 150/595 (25.2%) and 54/595 (9.0%) patients died during the induction and consolidation phase respectively, reaching a mortality related to the treatment of 34.2%. In 290/401 (72.3%) with B-ALL achieved a complete response (CR) after induction, also 199/401 (49.1%) patients achieved minimal residual disease (MRD) negative (<0.01%). 16/235 (6.8%) patients with B-ALL considered high risk who achieved CR received allogeneic hematopoietic stem cell transplantation (HSCT). 32/35 (91.4%) patients with T-cell acute lymphoblastic leukemia (T-ALL) received intensive chemotherapy, of which 17/24 (70.8%) achieved CR, MRD negative (<0.01%), in 8/20 (40.0%) and 3/17 (17.6%) who achieved CR received HCT.

The median OS was 12 months (95% CI 9.8-14.1) with a 5-year OS of 25.6%. The median OS for intensive chemotherapy patients with B-ALL was 12 months (95% CI 9.8 - 14.1) with a 5-year OS of 25.8% and 8 months (95% CI 5.9 - 10.0) with a 5-year OS of 23.5% for T-ALL. The 5-year OS for patients with HSCT was 78.4% (median survival not reached). The median OS for patients with B-ALL who received intensive high-risk chemotherapy was 12 months (95% CI 9.7-14.2) while median survival was not reached in the standard-risk group (p=<0.01). Figure 1. In patients with ALL-B, regimens with or without L-asparaginase

achieved a 5-year OS of 26.4% vs 22.9% (p=0.588), respectively. In multivariate analysis for patients with ALL-B on intensive chemotherapy, age [HR 1.02 (95% CI 1.00 - 1.04) p=0.014] was significantly associated with OS, as well as those patients who did not achieve negative an MRD [HR 1.82 (95% CI 1.23-2.69) p=<0.01]. Otherwise, the adolescent and young adults (AYA) group, BCR:ABL fusion, CNS infiltration and leukocyte number at debut, L-asparaginase chemotherapy regimens, and being classified as high-risk group did not show statistical differences associated with OS .

Conclusion

The reported OS rates in this cohort are considerably low when compared to with international available data, being mainly negatively affected by the high treatment-related mortality rate, and the small number of patients who reach a HSCT.

Disclosures No relevant conflicts of interest to declare.

Table 1. Demographic Clinical Data of Patients with Acute Lymphoblastic Leukemia

Variable		n	(%)
All patients		628	(100)
Median Age in years	30 (IQR 19 - 47)		
Age group in years	15 – 39	395	(62,9)
	40 – 64	181	(28,8)
	65 or older	52	(8,3)
Sex	Female	327	(52,1)
	Male	301	(47,9)
Linage	B-cell	593	(94,4)
	T-cell	35	(5,6)
BCR::ABL fusion		462	(100)
	Negative	402	(87,0)
	Positive	61	(13,0)
KTM2A rearrangement		114	(100)
	Negative	100	(87,7)
	Positive	14	(12,3)
CNS infiltration at debut		537	(100)
	No	413	(76,9)
	Yes	124	(23,1)
Treatment protocol		586	(100)
	BFM	287	(49,0)
	Hyper-CVAD	141	(24,1)
	PETHEMA LAL 2011	60	(10,2)
	CALGB 8811	46	(7,8)
	Otros*	52	(8,9)
Karyotype		511	(100)
	Normal	326	(63,8)
	Other clonal alterations	68	(13,3)
	Non-assessable metaphases	52	(10,2)
	Hyperdiploid	36	(7,0)
	Low hypodiploid	15	(2,9)
	Complex	14	(2,7)
Therapy with L-asparaginase		590	(100)
	No	164	(27,8)
	Yes	426	(72,2)

IQ (Interquartile Range); CNS (central nervous system)
*The following chemotherapy schemes were included: GATLA, DQTM, Total XV, Flag-Ida, Failler, Rituximab + Hyper-CVAD, Hyper-CVAD + Asparaginase.

Figure 1

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