Acute Myeloid Leukemia: Experience of a Single Center in Colombia

Claudia Sossa Melo^{1,2}, Pau Montesinos³, Sara Jimenez^{1,2}, Luis Salazar^{1,2}, Manuel Rosales Acevedo², Angela Peña^{1,2}, María Ortiz², Sandra Ríos², Stephanie Acevedo², Javier Delgadillo², Sergio Serrano¹, Maria Luna-Gonzalez¹, David L. Reyes¹, Claudia M. Chalela¹

¹Universidad Autónoma de Bucaramanga; ²Clínica FOSCAL, Colombia; ³Hospital La Fe, España

Background

Acute Myeloid Leukemia (AML) is a group of hematopoietic neoplasms characterized by abnormal proliferation and differentiation of a clonal population of precursor cells from myeloid lineage[1]. AML is the most common type of acute leukemia in adults in the United States with an incidence from 3 to 5 cases per 100,000 population that increases with age[2].

Objective

The aim of this study is to describe the characteristics of patients with diagnosis of AML in a single center in Colombia.

Materials & Methods

A retrospective cohort study was conducted at a tertiary referral center in Colombia, South America on patients older than 15 years who were diagnosed with AML between 2009 and November 2017. All patients included in the study gave informed consent. Descriptive statistics were used to analyze patient's demographic characteristics. The Kaplan-Meier method was used to assess overall survival at 5 years.

Results

One hundred and seventeen patients were included. Fifty-nine were male and 58 female. Median age of 63 years (range 15-95). The majority of the patients were in the <65 years group (55.5%), followed by 32.5% of the patients in the 65-80 years group.

CONTACT INFORMATION

Claudia L. Sossa Melo, M.D. Universidad Autónoma de Bucaramanga/Clínica FOSCAL. Email: claudiasossa@gmail.com

Image 1. Age frequency distribution

A total of 55.4% of patients were classified into FAB subtypes, the most common type of AML being AML with maturation (22.8%).

Table 1. Clinical characteristics of patients

Variable	Frequency n = 117	IQR	Min-Max
Type AML (FAB) (%)			
M0 (Undifferentiated AML)	9 (7.9)		
M1 (AML with minimal maturation)	12 (10.5)		
M2 (AML with maturation)	26 (22.8)		
M3 (acute promyelocytic leukemia)	0 (0)		
M4 (acute myelomonocytic leukemia)	3 (2.6)		
M5 (acute monocytic leukemia)	10 (8.8)		
M6 (acute erythroid leukemia)	1 (0.9)		
M4 eos (acute myelomonocytic leukemia with eosinophilia)	1 (0.9)		
Hb at diagnosis *	8.3	7.5 – 9.5	3 – 14.7
Leucocytes at diagnosis (10 ³)*	6.5	2.35 – 31.15	0.19 – 690
Platelets at diagnosis (10 ³)*	49.5	23 – 79	3 - 431
Blasts in bone marrow*	48	27- 70	0 - 95

*Median. FAB: French-American-British classification

The most common administered induction regimen in patients younger than 65 years was idarubicin + cytarabine (3+7) (83%). Of the 52 patients over the age of 65, 20 patients (41.7%) received only supportive care. The most common induction regimen for patients 65 years or older was FLUGA-fludarabine + cytarabine (36.5%). 63.8% of patients <65 years who received 3+7 achieved CR/CRi and 50% patients 65 years or older achieved CR/CRi. Fifteen (12.8%) patients received hematopoietic stem cell transplantation. Age range and distribution of the patients by type of induction regimen administered was as seen in the next image:

Image 2. Induction regimen by age distribution

The most common cause of death in LMA patients was progression of primary disease (26%), followed by infection (22%). Patients managed with FLUGA have a 5.9 times higher risk of death than patients managed with 3+7 (P<0.0001).

Image 3. Overall survival at 5 years in patients with complete response vs. partial response/failure

Conclusions

Clinical FOSCAL's cohort was younger than the median age at diagnose reported by existing literature[3]. The majority of younger adults received intensive induction therapy, which results in higher overall survival rates.

The most common cause of death in AML patients was primary disease, and treatment-related mortality was low. In Colombia, health centers have availability and cost limitations carrying out cytogenetic and molecular analysis, therefore there is difficulty diagnosing and classifying AML by molecular risk.

References

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