Real World Study in Childhood Acute Myeloid Leukemia: Patient Profile and Outcomes for Newly Diagnosed from a Single Center of Lima-Peru.

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Introduction

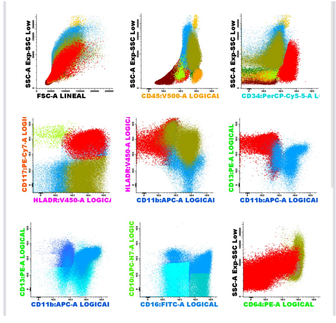
Acute Myeloid Leukemia (AML) is a highly heterogenous disease. Despite the advances on new agents and targeted therapy AML continue presenting poor outcomes. In our country health providers is divided on: public for general population (MINSA), public for formal employees (ESSALUD) and private. We present data of Rebagliati Martins Hospital- ESSALUD, which receives 15 to 20% of the general population with a slight decrease at COVID period.

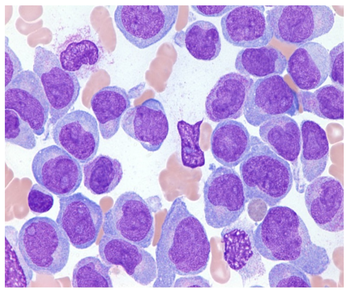
Objectives

We describe our retrospectively review of all the AML childhood patients newly diagnosed since **December 2019 to December 2024.**

Methods

The diagnosis was based on flow cytometry of medullar blood and bone marrow morphology. We excluded Down`s syndrome and M3 AML related because their management, treatment and prognosis are different. We consider pediatric population since 0 to 14 years.





Results

We present 10 cases, median age at diagnosis was 7.4 years old, the delay of diagnosis was 25.3 days (1-45 days) noticeable larger in patients who come from rural areas, female/male ratio was 1/1.

Molecular changes were CBF- MYH11 20%, half of them related to inv16, AML1-ETO 20%, half of them related to t(8;21), FLT3-ITD 10% related with complex karyotype and 50% none molecular changes detected with normal karyotype.

The **AML1-ETO change or t (8;21)**, is related with good prognosis, however Peruvian data (1) shows this molecular change is not different to normal karyotype and **is not a predictor of good prognosis in our reality.**

The treatment received was based on AML-BFM2004, 20% of them classified as high risk (HR) because of FLT3 mutation and primary refractory, none of them went to bone marrow transplantation (BMT) because of familiar negative or no response respectively.

Extramedullary infiltration was detected in 20% of patients, them were not related to molecular or cytogenetic changes

Six patients relapsed and two of them went to allogenic BMT at CR2, haploidentical in both cases and them are alive at this date.

The **median disease-Free Survival at five years was 13.14 months** the probability of Overall Survival (O.S) was 40% and the median O.S was 17.33 months.

Causes of death were infection associated to progression disease and one of them were COVID Pneumonia.

Summary

The **AML1-ETO** is related with good prognosis in most guides and reviews outside of Latin America, but this revision and other Peruvian data(1) shows that is not true in our reality.

Discussion

Although childhood AML is a molecularly heterogeneous disease with a similar phenotype, it has been repeatedly observed to behave different in LATAM population. AML1-ETO considered good prognosis in the rest of the world is at least intermediate or higher risk in our population, considering that NGS are not performed, some gaps remain in the adequate classification with the objective of determining the timely use of BMT as potentially curative option.

References

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