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Low-blast count acute myeloid Leukemia in a teenager, a diagnostic challenge: case report

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INTRODUCTION

Acute myeloid leukemia (AML) is a neoplasm of immature myeloid cells. AML often involves the bone marrow (BM) but may manifest in extramedullary tissue. Traditionally, AML was defined by the presence of more than 20% myeloid blasts on BM aspirate. However, in 2008, WHO included three defining recurrent cytogenetic abnormalities, such as t(8;21). Therefore, this report describes an adolescent with t(8.21) with low blast count.

CLINICAL SUMMARY

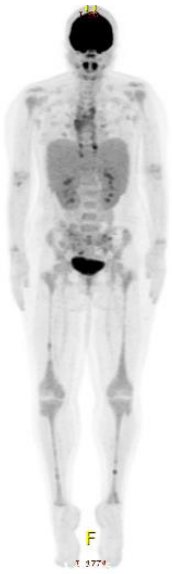
A 16-year-old female with persistent fever and hepatosplenomegaly. The initial workout showed hyperleukocytosis with deviation towards promyelocytes and increased inflammatory markers.

Abdominal imaging showed abscesses in the liver and kidney and antimicrobial regimen was prescribed. Patients evolved with resolution of the fever and the laboratory changes. However, the results of the BM aspirate showed translocation t(8,21), despite the normal myelogram and immunophenotyping.

Due to the patient's stability and absence of increase in the number of blasts in the marrow, chosen to repeat the exam with similar results. Then, the patient develops an external mass which biopsy demonstrates AML infiltration. She then underwent chemotherapy according to the GELMAI protocol with clinical and molecular remission after induction.

DISCUSSION

The Low-Blast-Count AML presents with t(8;21) or inv(16) and acute promyelocytic leukemia (APL) with t(15;17). Patients with t(8,21) and inv(16) can present with normal myelogram and immunophenotyping, but this is unusual, making this diagnosis a challenge. Therefore, the use of molecular analysis for diagnostics and treatment of AML.



PET CT with several areas of uptake in cervical and axillary lymph nodes (SUVmax 4.3), in addition to a paramediastinal area (SUVmax 5.3) clinically referring to the subcutaneous mass whose pathology showed leukemic infiltrate.