



Hematoma of the Leg Revealing Acute Lymphoid Leukemia

Madiha Benhachem, Amal Hamami, Ayad Ghanam, Aziza Elouali, Abdeladim Babakhouya, Maria Rkain

Department of Pediatrics, Faculty of Medicine and Pharmacy of Oujda, Mohamed 1 University, Oujda, Morocco
Email: madiha.benhachem@usmba.ac.ma

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Abstract

Acute myeloid leukemia (AML) represents about 20% of acute leukemias, the presentation of childhood AML reflects signs and symptoms that result from leukemic infiltration of the bone marrow and extramedullary sites. AML patients commonly present with signs and symptoms of pancytopenia, such as fever, pallor and bleeding that results from thrombocytopenia, musculoskeletal bleeding remains an infrequent presentation at the onset of the disease, we are going to report a case of about a five year male child diagnosed with acute myeloid leukemia initially revealed by a leg hematoma in order to highlight some of atypical bleeding localization of this disease.

Subject Areas

Pediatrics

Keywords

Acute Myeloid Leukemia (AML), Leg, Bleeding, Children

1. Introduction

The acute myeloid leukemia is a malignant disorder of bone marrow hematopoietic precursors, it is the second most common leukemia in children [1], survival outcomes of AML are around 60% [2] due to the rarity of pediatric AML and to its heterogeneous disease mechanisms, easy bruising, petechiae, and gingival bleeding, conjunctival hemorrhages, injuries reflect thrombocytopenia and are frequent early manifestations of the disease, we are going to report a case of a five-year child with an uncommon sign of AML in order to highlight some of atypical bleeding presentation of this pathology.

2. Case Report

A 5-year male child with no notable pathological history was admitted to the pediatric emergency department for a large right acute leg evolving since three days. On clinical examination, he was fully conscious and alert, but he appeared ill with severe pallor, the osteoarticular examination objectified a large right acute leg very painful “**Figure 1**”, with no inflammatory or erythematous cup-board, nor entrance door, There were no lymph nodes enlargements or other manifestations of bleeding tendency such as purpura or ecchymosis, the ultrasound showed an hematoma of the posterior compartment of the right leg measuring 51 × 31 mm without signs of deep vein thrombosis on the doppler ultrasound, in parallel peripheral blood examination showed severe normochrome normocytic anemia (4.5 g/dl), deep neutropenia = 310 cells/mcl and thrombocytopenia (platelets 44.10×3) controlled on blood smear, the bleeding profile was normal (PT = 71%, aPTT = 25 second), the fibrinogen was correct = 300 mg/dl, CRP = 31 mg/dl and the procalcitonin was negative, Bone marrow aspiration demonstrated 91% monoblasts with negative myeloperoxidase reaction, the diagnosis of an acute myeloid leukemia was confirmed by flow cytometric analysis, the patient received daily platelets transfusions, antibiotics in order to prevent sepsis and started induction chemotherapy of AML, the ultrasound control showed regression of the hematoma.

3. Discussion

AML is an aggressive myeloid neoplasm that results from clonal transformation of hematopoietic precursors through the acquisition of chromosomal rearrangements and multiple gene mutations [3] The incidence of pediatric AML is estimated to be between five and seven cases per million people per year, with a peak incidence of 11 cases per million at 2 years of age [4] [5] [6], initial symptoms may be due to the presence of anemia, neutropenia, or thrombocytopenia leading to bleeding that may present as bruising, petechiae, epistaxis, hemoptysis, hematemesis, hematochezia, melena, hematuria, or vaginal bleeding, infrequently gastrointestinal, genitourinary, bronchopulmonary, or central nervous system bleeding can occur at the onset of the disease but most often patients with acute leukemia present with non-specific symptoms that could make an early diagnosis of acute leukemia very difficult sometimes [7].



Figure 1. Large acute leg.

Thrombocytopenia in AML is due to bone marrow infiltration by leukemia cells leading to decreased production of platelets, other factors can contribute to thrombocytopenia in AML such as sepsis, disseminated intravascular coagulation, chemotherapy and radiotherapy. Hemorrhagic complications are widely described in literature and constitute the second most common cause of death in such patients especially intracranial hemorrhage [8] [9], Skeletal manifestations of acute leukemia (bone or back pain, arthritis or radiographical abnormalities of skeleton) are well described in children [10] but musculoskeletal bleeding remains a rare bleeding localization as the case of our patient so it is important to think about neoplasia in front of unexplained hemorrhage in a patient with a negative infectious balance.

4. Conclusion

The prognosis of children who have AML has improved greatly during the past 3 decades, hemorrhagic complications are common in patients with acute leukemia (approximately 20%) and constitute the second most common cause of death in such patients but sometimes the localization of bleeding is unexpected so the main objective is to raise concern about some uncommon sign of this pathology in order to prevent late AML diagnosis that can be difficult to handle.

Conflicts of Interest

The authors declare no conflicts of interest.

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