

Case Report

Acute Lymphoblastic Leukemia Masquerading as Aplastic Anaemia in a 1-Year-6 Months-old Child - "A Diagnostic Dilemma"

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ABSTRACT

Nowadays, the most common Childhood malignancy is Acute Lymphoblastic Leukemia (ALL), accounting for nearly one-third of pediatric cancers. It typically presents with fever, pallor, lymphadenopathy, and organomegaly. Some children may initially resemble aplastic anemia with profound pancytopenia, creating diagnostic difficulty and delay in treatment. Recognizing such an atypical presentation is therefore essential for all pediatricians and hematologists, as timely and accurate diagnosis has a direct impact on prognosis.

Key words: Aplastic anemia, ALL, Pancytopenia, Diagnostic dilemma, Bone marrow hypocellularity

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Introduction

Childhood cancers are uncommon overall, but among them, ALL remains the most common cancer diagnosed in children under 15 years, with a median age of diagnosis at 15 years.^{1,2} ALL expresses a bimodal peak, more likely to occur at 1-4 years of age compared to infants and those aged 10 years and above.² The etiology of ALL is still unknown, although some association with immunotherapy and genetic abnormality is reported. ALL develops constitutional symptoms (fever, night sweats, weight loss), anemia, hepatomegaly, splenomegaly, and lymphadenopathy.¹ The etiology of ALL remains unknown, although some association with immunotherapy and genetic abnormalities has been reported.³

Case Presentation

A 1 Year, 6-month-old boy, the second child of non-consanguineous parents, well-immunized according to the EPI schedule, was admitted to Zainul Haque Sikder Women's Medical College

& Hospital on 30th June '2025 with complaints of progressive pallor for 1 month, fever for 7 days, generalized weakness, and abdominal distension for the same duration. There was a continuous fever, with a highest recorded temperature of 103°F, without chills or rigor, and without subsiding with antipyretics. There was no history of blood transfusion, hematemesis, or melena.

On examination, he was ill-looking, severely pale, febrile, and presented with bilateral supraclavicular lymphadenopathy (Enlarged 10x5mm in size, tender, rubbery, and fixed with underlying and overlying structure) and hepatomegaly (liver palpable 2.5 cm below the right costal margin, firm, non-tender). Other systemic examinations revealed normal findings. During admission, he had no lymphadenopathy or hepatomegaly, so he was treated with the antibiotic meropenem and antipyretics.

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Conclusion

This report highlights the diagnostic challenge posed by ALL, initially, which presents as aplastic anemia. Continuous monitoring and reconsideration of the diagnosis are essential for timely interventi

References

1. Brown P, Inaba H, Annesley C, et al. Childhood Acute Lymphoblastic Leukemia Treatment (PDQ®): Health Professional Version. National Cancer Institute (US). Updated August 2012.<https://www.cancer.gov/types/leukemia/hp/child-all-treatment-pdq>
2. Inaba, Hiroto, et al. "Pediatric Acute Lymphoblastic Leukemia, Version 2.2025, NCCN Clinical Practice Guidelines In Oncology." Journal of the National Comprehensive Cancer Network 23.2 (2025): 41-62.<https://jnccn.org/view/journals/jnccn/23/2/article-p41.xml>
3. Salih, Ali KM. "Pediatrics acute lymphoblastic leukemia." (2024). [pediatrics-acute-lymphoblastic-leukemia.pdf. https://share.google/YPinrEBtxAm0cCOWu.](https://share.google/YPinrEBtxAm0cCOWu)