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Pseudo-Chediak-Higashi inclusions in a case of acute lymphoblastic leukemia

Sarita Pradhan, Sima Chauhan

Lab Hematology Division, Department of Pathology, Institute of Medical Sciences and Sum Hospital, Bhubaneswar, India

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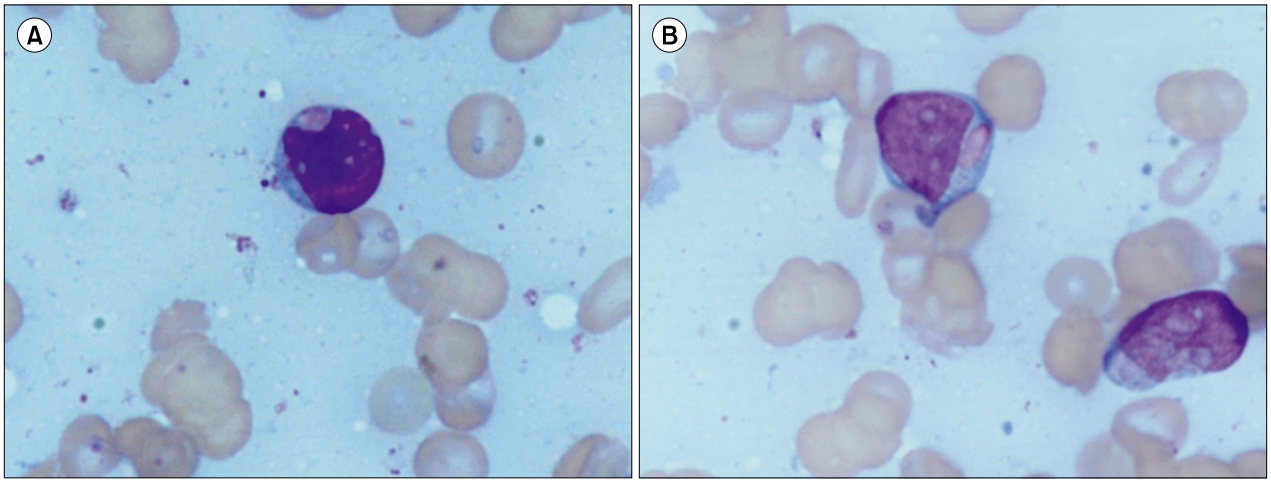
Correspondence to Sarita Pradhan, M.D., Lab Hematology, Institute of Medical Sciences and Sum Hospital, Kalinganagar, Bhubaneswar 751003, India, E-mail: dr.sarita26@gmail.com



A 57-year-old man presented with fever and bilateral cervical lymphadenopathy for 3 months. The hemoglobin level was 6.3 g/dL, with a total leucocyte count of 1,180/μL and platelet count of 270×10^3/μL. The differential count showed 90% lymphocytes, 6% neutrophils, and 4% blasts. Bone marrow (BM) aspiration was difficult and the sample was hemodiluted, with 59% blasts in the differential count. The blasts were negative for Sudan Black B. Many blasts showed eosinophilic, hyaline inclusion-like bodies resembling Chediak-Higashi granules (**A, B**; BM aspiration, Leishman-Giemsa, ×1,000). Flow cytometry analysis revealed a distinct population in the blast window that was positive for TdT, HLA-DR, cCD22, and cCD79a, with co-expression of CD10 and CD19. There was an aberrant expression of CD33. A final diagnosis of acute lymphoblastic leukemia with pseudo-Chediak-Higashi inclusions was made. Pseudo-Chediak-Higashi granules are giant eosinophilic cytoplasmic inclusions in myeloblasts or myeloid precursors and resemble the inclusions found in inherited Chediak-Higashi syndrome. They are occasionally encountered in acute myeloid leukemia but are very rare in acute lymphoblastic leukemia. Very few cases have been reported.