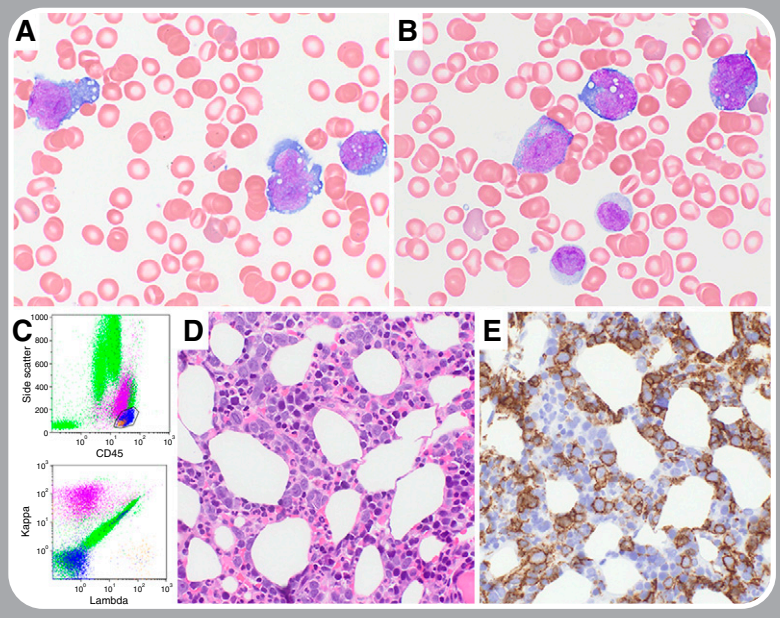
bloodwork
IMAGES IN HEMATOLOGY

Leukemic presentation of diffuse large B-cell lymphoma: an unusual pattern associated with splenic involvement



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A 61-year-old man without significant medical history presented with a several-week history of drenching night sweats, 30-pound weight loss, diarrhea, and increasing fatigue. His evaluation in the emergency room revealed hepatosplenomegaly with elevated lactate dehydrogenase (4086 U/L) and lactate (6.9 mmol/L). Examination of the peripheral blood demonstrated an elevated white blood cell count (25.5 $\times$ 10^9/L) with numerous large atypical cells with fine chromatin, prominent nucleoli, and copious cytoplasm, often with long cytoplasmic processes (panel A; Wright-Giemsa stain, 100$\times$ oil objective). There were admixed immature myeloid elements and nucleated red blood cells consistent with a leukoerythroblastic reaction (panel B; Wright-Giemsa stain, 100$\times$ oil objective), anemia (hemoglobin, 9.1 g/dL), and thrombocytopenia (platelets, 52 $\times$ 10^9/L). Flow cytometric analysis revealed that the large atypical cells were CD20 (bright), kappa-restricted B cells (panel C) and were negative for CD5, CD10, CD11c, CD25, and CD103. A similar population was identified on a subsequent bone marrow aspirate and trephine core biopsy, which showed a mixed interstitial and intravascular distribution of the large lymphoid cells (CD20; panels D-E; hematoxylin and eosin stain, 40$\times$ objective [D], CD20 with hematoxylin counterstain, 40$\times$ objective [E]). Cytogenetics demonstrated a complex karyotype with a BCL6 translocation but no evidence of MYC or BCL2 rearrangement.

This unusual presentation with leukemic involvement and an intrasinusoidal/intravascular pattern in the marrow with noncohesive growth can be seen with splenic diffuse large B-cell lymphoma. It frequently involves the liver and follows an aggressive course.

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