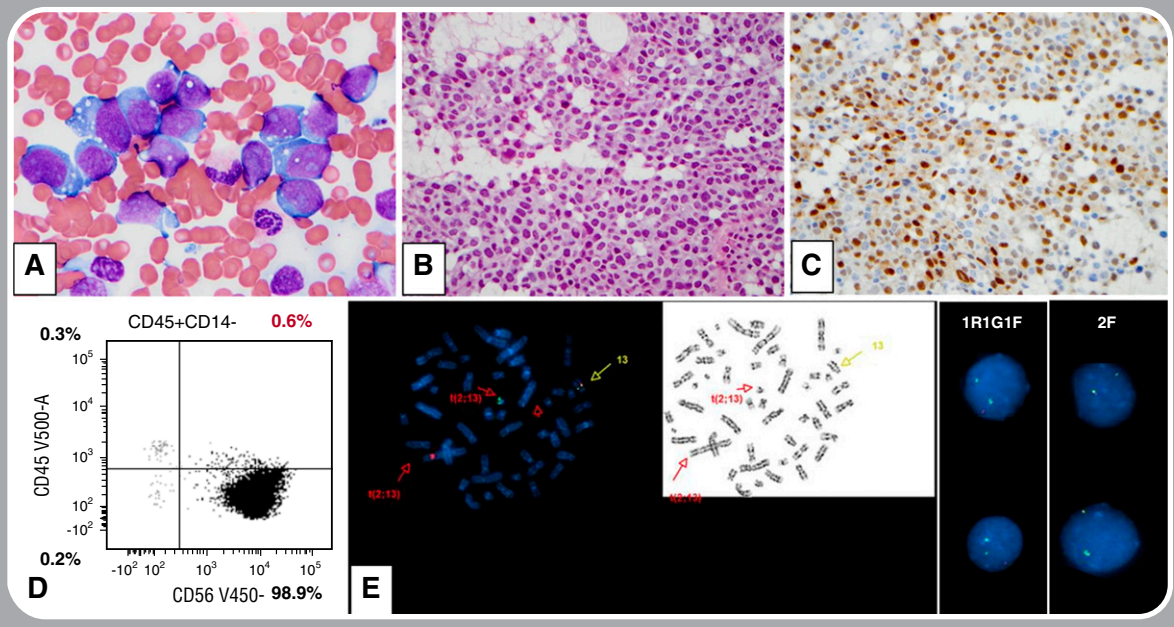
Check for updates

bloodwork
IMAGES IN HEMATOLOGY

Metastatic rhabdomyosarcoma initially diagnosed on the bone marrow



Andrés E. Quesada and Rashmi Kanagal-Shamanna, The University of Texas MD Anderson Cancer Center

A 15-year-old boy presented with a rapid-onset right-sided facial mass, thrombocytopenia (114×10^9/L), and elevated serum lactate dehydrogenase. A computed tomography scan demonstrated a maxillary sinus and nasopharyngeal mass with extensive cervical lymphadenopathy. Bone marrow (BM) biopsy was performed shortly prior to lymph node resection due to high suspicion of lymphoma. BM aspirates showed numerous discohesive cells with scant-moderate vacuolated basophilic cytoplasm, dispersed nuclear chromatin, and prominent nucleoli (panel A; original magnification ×1000, Wright-Giemsa stain). BM biopsy showed interstitial and diffuse mononuclear cell infiltrates (panel B; original magnification ×400, hematoxylin and eosin stain). Flow cytometry showed a discrete $CD56^+$ cell population, negative for lymphoid/myeloid markers (panel D). An extensive panel of immunohistochemical stains showed myogenin (panel C; original magnification ×400) and desmin-positive infiltrates, diagnostic of metastatic rhabdomyosarcoma. Subsequent histopathological workup of the resected lymph node, and positive *FOXO1A* (*FKHR*) gene rearrangement [t(2;13)(q33;q14)] by fluorescence in situ hybridization (dual-color, break-apart rearrangement probe; panel E) confirmed a solid variant of alveolar rhabdomyosarcoma. The patient underwent chemotherapy and radiation, but unfortunately died 2 years after diagnosis due to widespread metastases.

Rapid diagnosis was possible on the BM specimen using a combination of flow immunophenotyping and immunohistochemical workup, despite the absence of any distinctive morphologic findings. The case highlights the importance of a comprehensive BM workup using all modalities.

ASH Image Bank

For additional images, visit the ASH IMAGE BANK, a reference and teaching tool that is continually updated with new atlas and case study images. For more information visit http://imagebank.hematology.org.

DOI 10.1182/blood-2016-07-727388

© 2016 by The American Society of Hematology

Downloaded from http://ashpublications.net/blood/article-pdf/128/17/2189/1396475/2189.pdf by guest on 09 May 2024