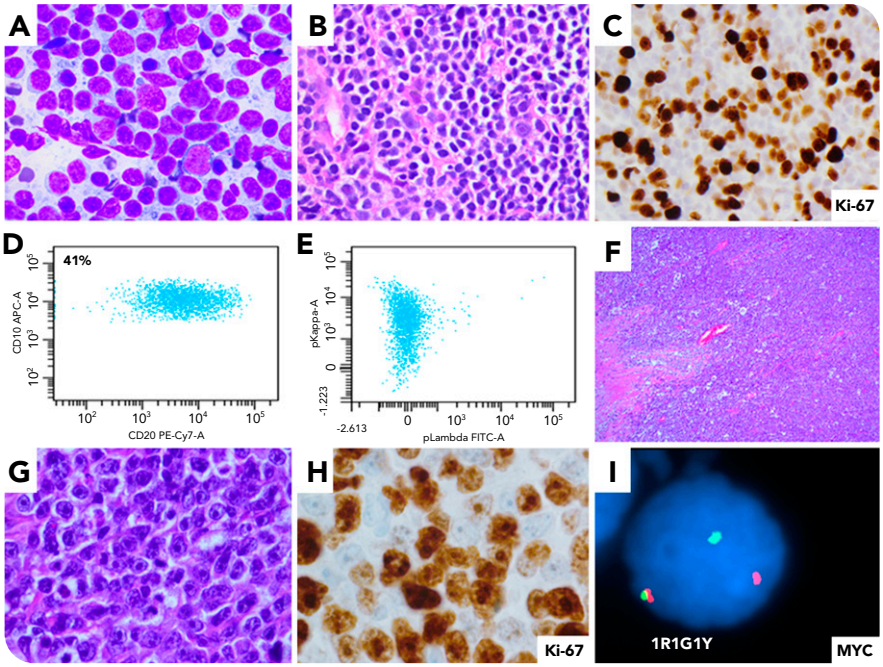
blood work
images in hematology

Testicular double-hit lymphoma in a patient with history of follicular lymphoma with high proliferation index

Betty M. Chung and Arthur W. Zieske, Houston Methodist Hospital



A 66-year-old man with follicular lymphoma after multiple therapies presented with a retroperitoneal mass (panel A: fine needle aspirate, Diff-Quik stain, 1000× oil immersion; panels B-C: needle biopsy, hematoxylin and eosin (H&E) and Ki-67 stains, 500× oil immersion) compatible with his history of follicular lymphoma. Limited biopsy precluded grading and Ki-67 staining was 40%. Flow cytometry showed a κ-restricted, CD10-positive mature B-cell population (panels D-E), and he was treated with chemoradiotherapy. Five years later, he presented with a testicular mass and orchiectomy showed germinal center type, Epstein-Barr virus–encoded small nuclear RNA in situ hybridization–negative, diffuse large B-cell lymphoma with "starry sky pattern" (panels F-G: H&E stain, 100× and 1000× oil immersion), focal necrosis, and lymphoma at the spermatic cord margin. Proliferation index was 60% to 70% (panel H: Ki-67 stain, 1000× oil immersion). Fluorescence in situ hybridization confirmed *MYC* rearrangement (panel I; 77% of nuclei examined), *IGH/BCL2* (31% of nuclei examined), and *IGH* gain (19.5% of nuclei examined) but no *BCL6* rearrangement.

The presence of large atypical cells in follicular lymphomas has been associated with early large cell transformation. T-cell–mediated immunosurveillance and chemotherapy are thought to have reduced efficacy in immune-privileged sites, where transformation to aggressive variants like blastoid or double-hit large B-cell lymphomas may be more likely.

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