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Concurrent diagnosis of classical Hodgkin lymphoma and Langerhans cell histiocytosis

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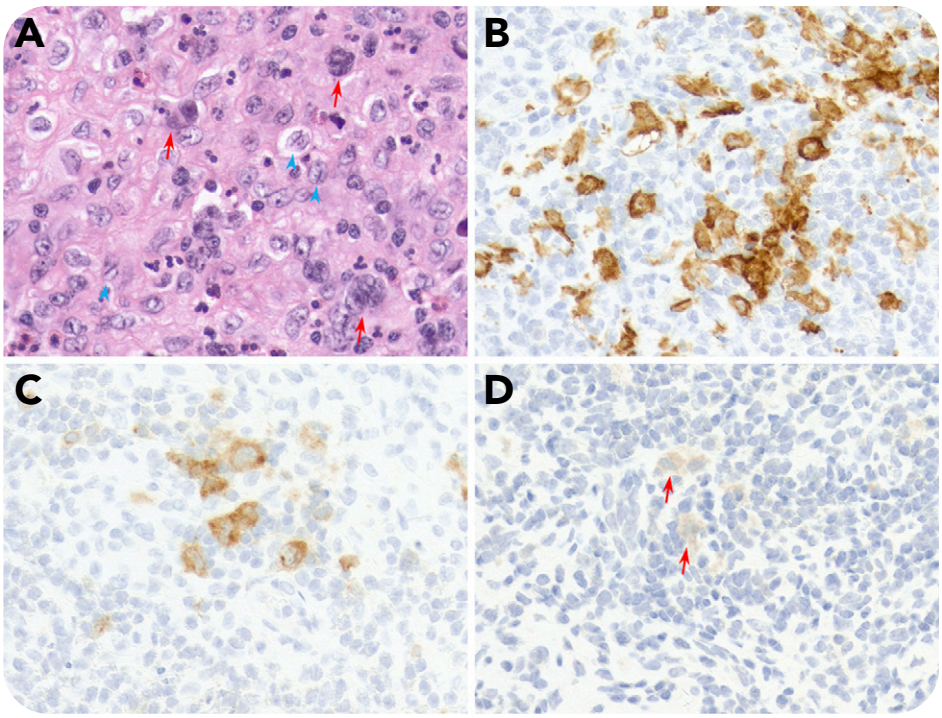

A 44-year-old woman presented with a palpable right supraclavicular mass. Excisional biopsy revealed involvement by classical Hodgkin lymphoma (cHL), nodular sclerosis subtype. Hematoxylin and eosin–stained sections showed a lymph node partially effaced by vaguely nodular infiltrates composed of large, frankly malignant lymphoid cells. The abnormal large cells included binucleated Reed-Sternberg cells (panel A, red arrows; original magnification ×40). By immunohistochemistry stain, the cells expressed CD30 (panel C; original magnification ×40) and PAX5 without CD15 or BOB1. Additionally, a nodular proliferation of Langerhans cells with grooved nuclei, fine chromatin, and abundant eosinophilic cytoplasm was noted (panel A, blue arrows; original magnification ×40). By immunohistochemistry stain, the cells were positive for CD1a (panel B; original magnification ×40) and S100. The sample tested positive for the BRAF p.V600E mutation (NM_004333.4:c.1799T>A) by next-generation sequencing and immunohistochemistry stain (panel D, red arrows; original magnification ×40). A diagnosis of nodular sclerosis cHL with foci of Langerhans cell histiocytosis (LCH) was rendered. The patient was treated with 4 cycles of ABVD (Adriamycin [doxorubicin], bleomycin, vinblastine, dacarbazine) chemotherapy followed by 30.6-Gy radiation. A year later, she remains in complete remission.

Previous case studies suggest a higher prevalence of hematologic and solid malignancies among LCH patients both preceding, concurrent with, and following a diagnosis of LCH. Interestingly, our case demonstrates a concurrent cHL and LCH diagnosis in which a BRAF mutation was isolated in lesional tissue.

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