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Rare composite of Rosai-Dorfman-Destombes disease and nodular lymphocyte-predominant B-cell (Hodgkin) lymphoma

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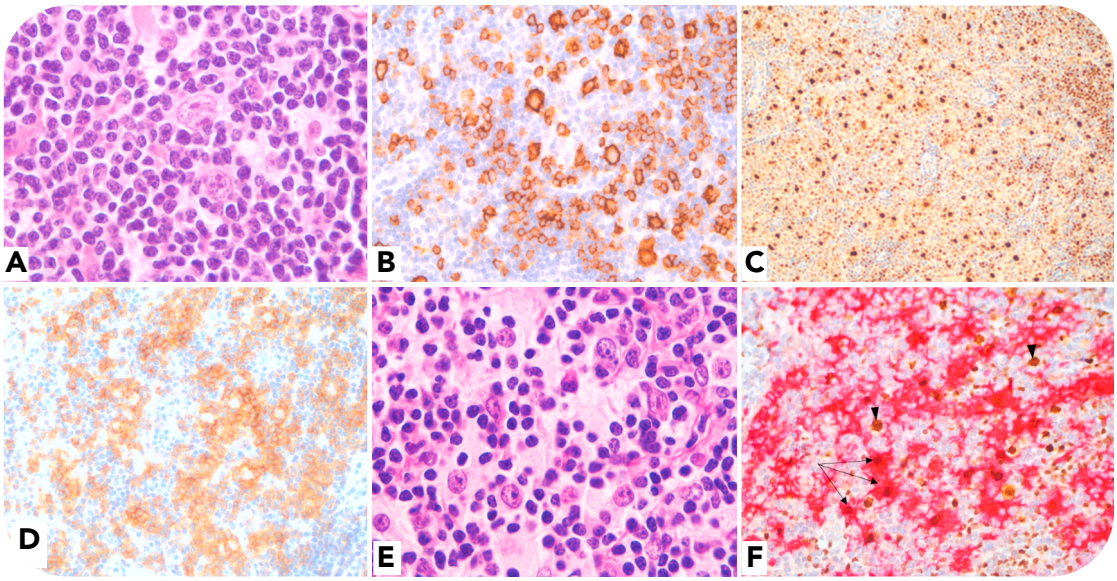

A 23-year-old woman presented with a long-standing left posterior cervical lymph node that had gradually increased in size over several years. Imaging revealed complex hypoechoic lesions measuring up to 3.3 cm; the node was excised. Hematoxylin and eosin staining demonstrated vague nodular aggregates of small lymphocytes with scattered large lymphocyte-predominant (LP or "popcorn") cells (panel A, original magnification ×1000). These cells expressed CD20 (panel B, original magnification ×500) and OCT2 (panel C, original magnification ×100) and were surrounded by PD-1–positive T-cell rosettes (panel D, original magnification ×100), consistent with nodular lymphocyte-predominant B-cell lymphoma (NLPBL, ICC 2022; nodular lymphocyte-predominant Hodgkin lymphoma, WHO-HAEM5). Additionally, >10% of the node showed sinus expansion by large histiocytes with emperipolesis and abundant pale eosinophilic cytoplasm (panel E, original magnification ×1000), consistent with Rosai-Dorfman-Destombes disease (RDD). These histiocytes were positive for S100 [red]/OCT2 [brown] double stain (panel F, original magnification ×100), highlighting both the histiocytes (arrows) and scattered LP cells (arrowheads). Cyclin D1 (not shown) was positive in the RDD histiocytes, but not in the LP cells. PET/CT performed after diagnosis revealed multiple FDG-avid cervical and supraclavicular lymph nodes, confirming multifocal nodal disease.

OCT2 expression in both RDD and NLPBL highlights the importance of interpreting immunophenotypic findings within their morphologic context. Although OCT2 marks neoplastic B cells in NLPBL, its expression in RDD reflects a characteristic histiocytic phenotype. Recognizing this overlap is critical to avoid diagnostic pitfalls in rare composite lesions.

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