

Reactive follicular hyperplasia (RFH) in lymph nodes is characterized by an increased number and size of lymphoid follicles. Lymphoid follicles are the functional units of the B-cell immune response and, as a result, inflammatory and immune reactions that trigger a humoral response and cause activation of B-cells are generally associated with reactive follicular hyperplasia. In broad terms, diseases that cause RFH include bacterial and viral infections, as well as autoimmune diseases. In some patients, the etiology of RFH cannot be ascertained. Follicular hyperplasia is commonly accompanied by hyperplasia of other compartments in the lymph node.

Morphologically, RFH is characterized by an increase in the number and size of lymphoid follicles [1]. Many enlarged lymphoid follicles also assume or coalesce into irregular shapes. Despite these changes, follicles in RFH maintain discernible mantle and marginal zones. The germinal center is frequently expanded, with preservation of the light and dark zones. Scattered within these reactive germinal centers are many tingible-body macrophages, a process that imparts a starry-sky pattern. In pure RFH, the paracortical area is diminished. Sinuses generally remain patent, even if they frequently contain increased numbers of sinus cells (or littoral

cells). It is not uncommon for reactive lymphocytes to involve the nodal capsule, but reactive follicles rarely extend into adjacent perinodal soft tissue [2].

Reactive follicular hyperplasia must be distinguished from a neoplastic lymphoid proliferation with a nodular growth pattern, primarily follicular lymphoma (FL). On morphologic grounds, FL generally exhibits more numerous follicles that are evenly distributed (back-to-back) and similar in size compared to RFH. Tingible-body macrophages are generally less numerous in FL, and the mantle zones are frequently ill-defined [3, 4]. In addition to morphologic clues, immunophenotyping by immunohistochemistry and flow cytometry provides useful information to distinguish reactive from neoplastic proliferations in such settings. One of the most helpful immunostains to distinguish RFH from FL is B-cell lymphoma 2 (BCL2), which is characteristically not expressed by reactive germinal center B-cells and frequently expressed in FL. Flow cytometric analysis is most useful for demonstrating that the B-cells in RFH are polytypic. Rarely, immunoglobulin heavy-chain gene rearrangement studies may be necessary if morphology and immunophenotyping do not provide conclusive distinction between RFH and neoplastic B-cell proliferation.

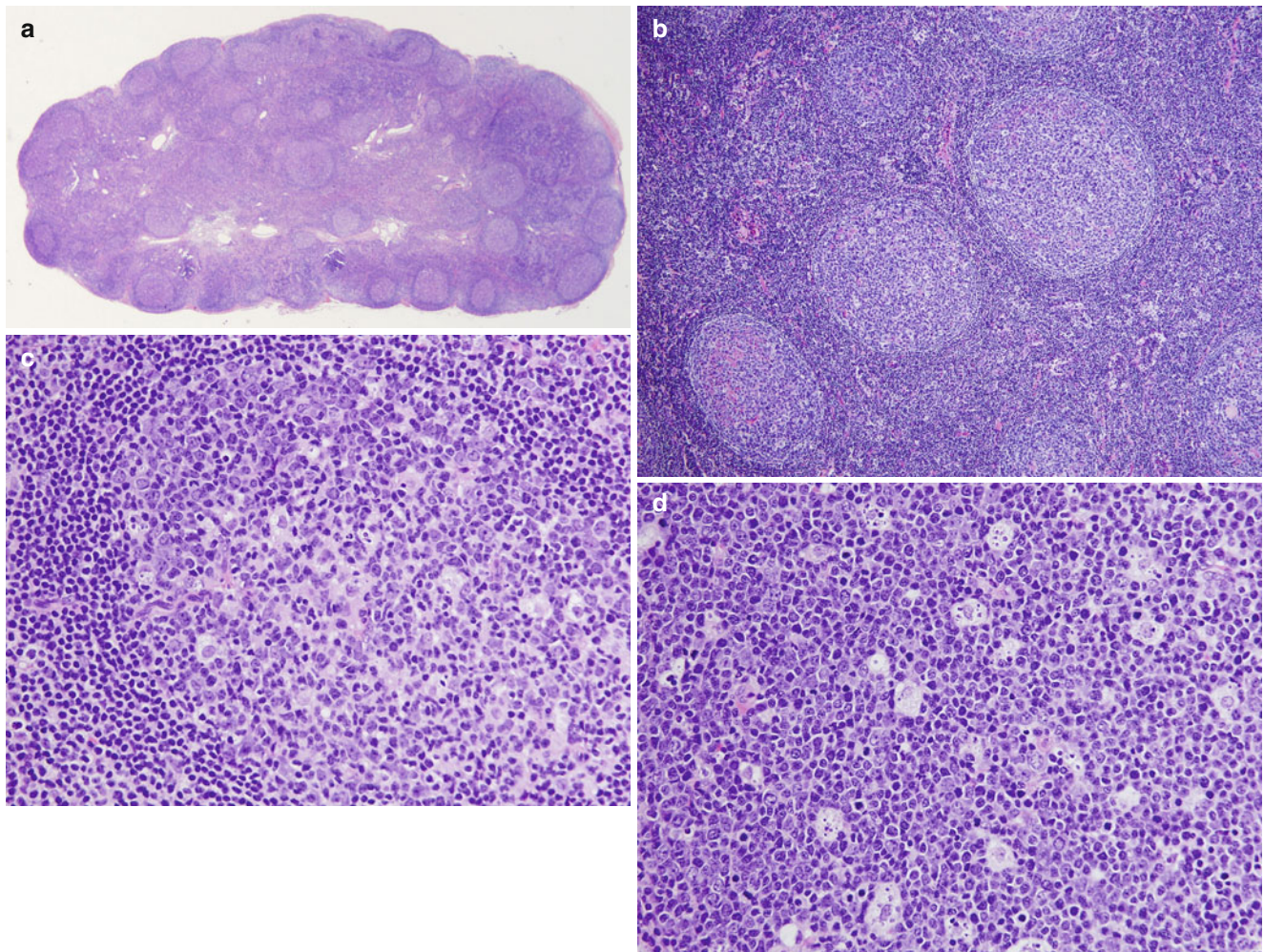


Fig. 2.1 Morphologic features of reactive follicular hyperplasia. Low-power magnification demonstrates increased number and size of lymphoid follicles (**a**), with preserved delineation of the germinal center, mantle zone, and marginal zone (**b**). (**c**) The light (centrocyte-rich) and

dark (centroblast-rich) zones of the germinal center are preserved. (**d**) Many germinal centers in reactive follicular hyperplasia contain abundant tingible-body macrophages, imparting a localized starry-sky pattern

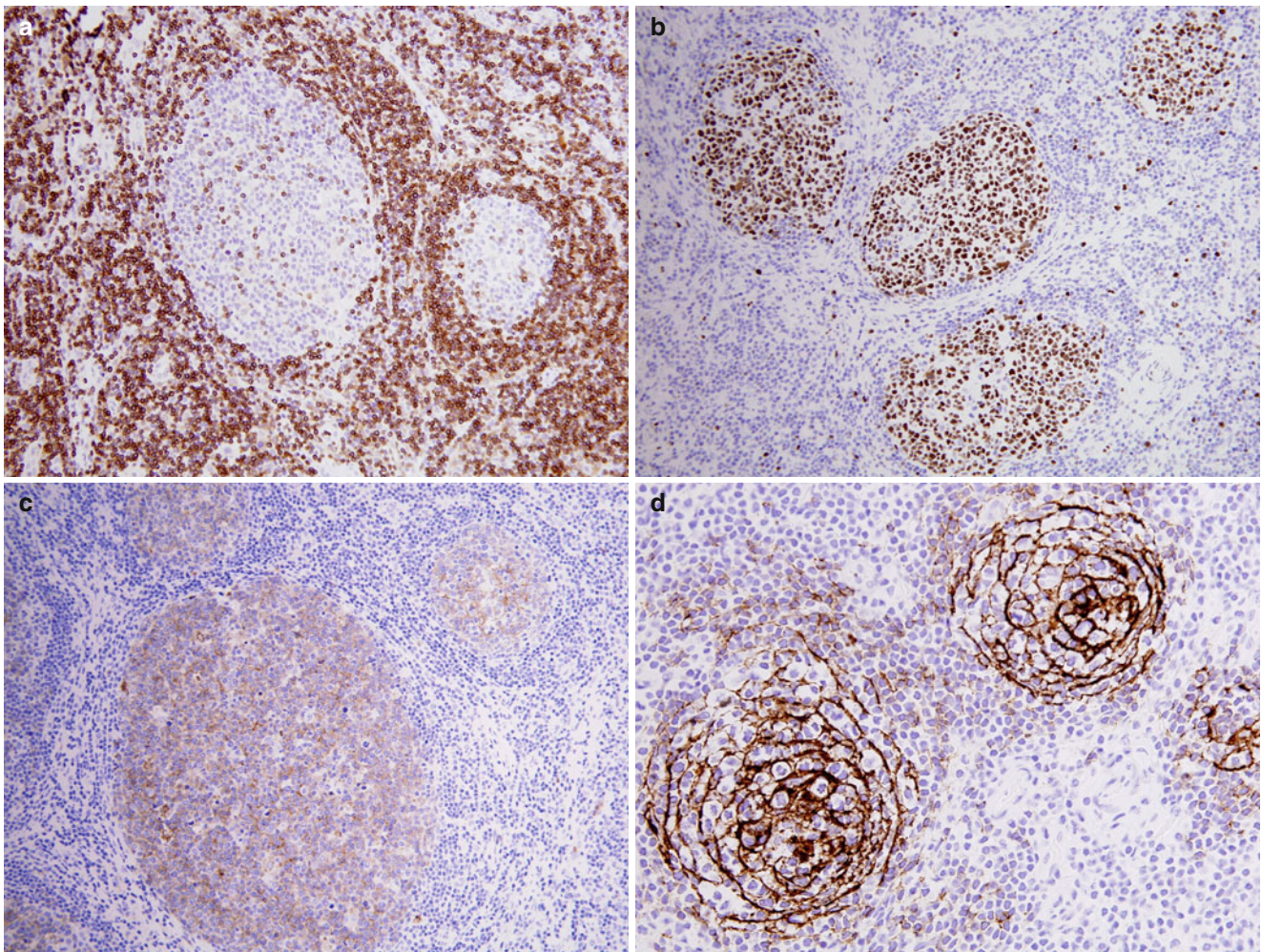


Fig. 2.2 By immunohistochemistry, reactive follicles are characterized by absence of BCL2 (a) expression in the germinal center, which otherwise is positive for CD10 (b), BCL6 (c), and the follicular dendritic cell marker CD23 (d)

References

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