Diffuse large B-cell lymphoma of the nasopharynx.

by Lester D. R. Thompson, MD

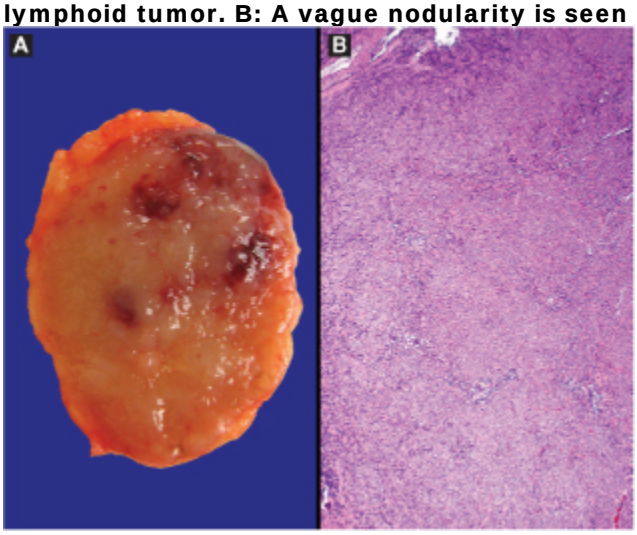
Diffuse large B-cell lymphoma accounts for more than 50% of all Waldeyer ring lymphomas, which in turn account for about 15% of all head and neck lymphomas and about 50% of all extranodal head and neck lymphomas.

Diffuse large B-cell lymphoma (DLBCL) is a primary malignant B-cell lymphoid neoplasm. The bulk of the disease develops in the Waldeyer ring (palatine tonsils, nasopharyngeal adenoids, base of the tongue, and lingual tonsils). DLBCL accounts for more than 50% of all Waldeyer ring lymphomas, which in turn account for about 15% of all head and neck lymphomas and about 50% of all extranodal head and neck lymphomas. The incidence of DLBCL is higher in Asian patients than in Western patients. Men are affected more often than women, and most patients present between the sixth and eighth decades of life. Patients with an underlying immunodeficiency disorder tend to pre-sent at a younger age.

In general, the tonsils are more commonly affected than the nasopharynx or tongue base. Patients pre-sent with dysphagia, odynophagia, swelling or a lump in the throat, decreased hearing, pain, and sore throat. The vast majority of cases are unilateral, and concurrent cervical adenopathy is present in about two-thirds of patients. B symptoms (fever, chills, weight loss, and night sweats) have been reported infrequently.

Surgery may be performed for symptomatic relief, but the mainstay of therapy is radiation and/or chemotherapy. Most patients present with low-stage disease, and 5-year survival is approximately 65%. Relapses are common, and they frequently affect the regional lymph nodes, although other mucosal sites (e.g., gastrointestinal tract, lung), bone marrow, and liver may also be affected.

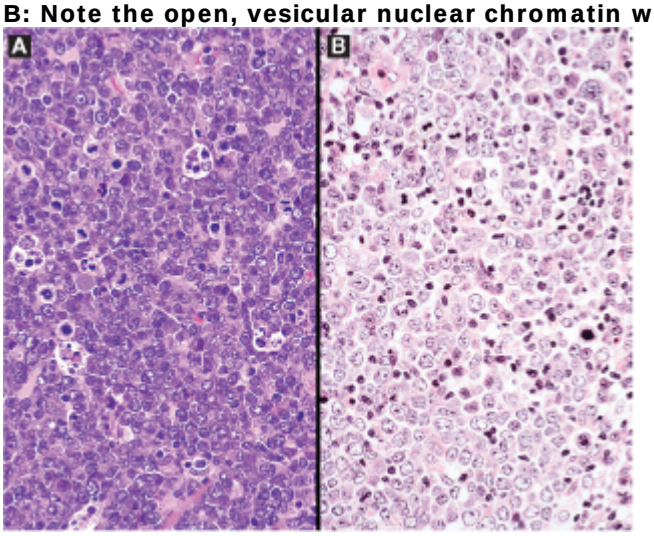
Figure 1. A: Photograph shows a gross illustration of the “fish flesh” appearance of a cut lymphoid tumor. B: A vague nodularity is seen in this otherwise effaced nasopharyngeal tissue.



Histologically, DLBCLs exhibit a diffuse effacement of the normal architecture by a submucosal, discohesive cellular infiltrate (figure 1). Germinal centers are usually lost, although germinal center colonization is sometimes seen. The neoplastic cells are large, with round to oval nuclei

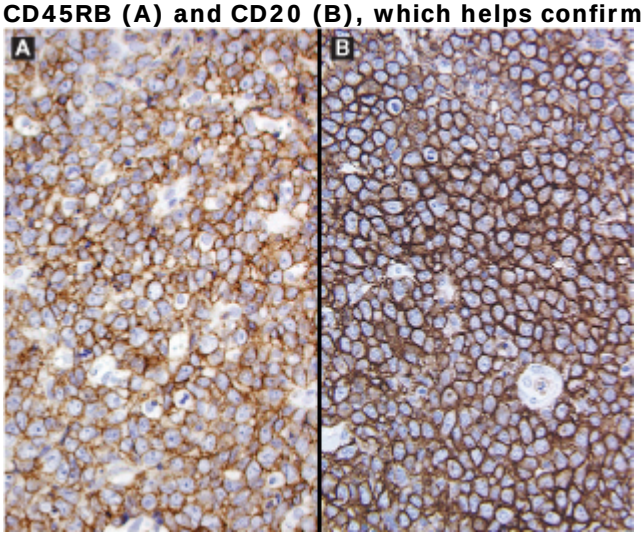
showing open, vesicular nuclear chromatin and prominent nucleoli (figure 2). Nuclear contour irregularities are frequently present. There are usually many mitoses, including atypical forms. Necrosis and apoptosis are common.

Figure 2. A: The neoplastic cells show a sheet-like distribution. Numerous tingible-body macrophages are present along with numerous mitoses, indicating a high proliferation index. B: Note the open, vesicular nuclear chromatin within the nuclei, which have irregular contours.



DLBCLs usually demonstrate a positive reaction with pan B-cell markers, particularly for follicular center cell-derived cells, and they are nonreactive with T-cell markers. The tumor cells are usually reactive with CD45RB, CD20 (figure 3), CD79a, bcl-6, CD10, vimentin, and p63. The proliferation index (Ki-67) is usually greater than 90%. The cells are negative with CD3, CD5, CD56, and EBER. Reactive lymphoid follicular hyperplasia, infectious mononucleosis, and nasopharyngeal carcinoma (nonkeratinizing type) need to be excluded histologically and/or immunophenotypically.

Figure 3. A: The neoplastic cells show a strong and diffuse cytoplasmic reaction with CD45RB (A) and CD20 (B), which helps confirm the B-cell phenotype of this lymphoma.



Suggested reading

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From the Department of Pathology, Southern California Permanente Medical Group, Woodland Hills Medical Center, Woodland Hills, Calif.

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