

History

- A 73-year-old female patient was referred for rapid growth of two new lesions on the face.
- She had past medical history of systemic lymphoma.
- On examination, there was a palpable mass over the left superior orbital region and the right-side of the nasal bridge.
- Excisional biopsies of the lesions were sent for ophthalmic pathology assessment.
- Macroscopic examination revealed: A) left orbital lesion – white fleshy tissue measuring 4mm in diameter; and B) a nasal bridge lesion – three pieces of white firm tissue, the largest measuring 6 x 5 x 4mm.

Questions

1. Figure 1 shows a representative H&E section of the lesion. How can this be described?
2. What immunohistochemical stains would help?
3. Figures 2a-e demonstrate positive immunostaining for select markers. What is the most likely diagnosis?
4. What genetic translocation can be associated with this condition?

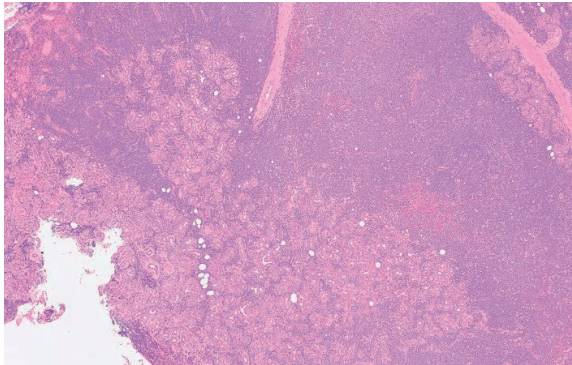


Fig 1a

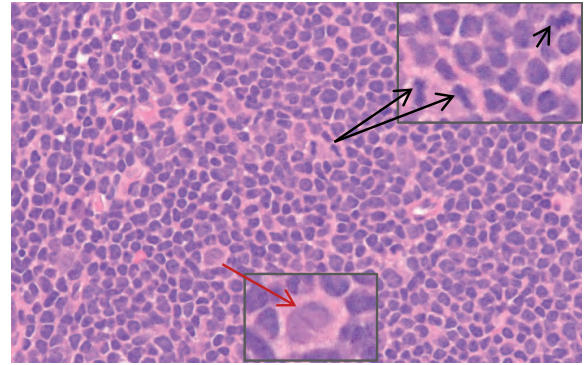


Fig 1b

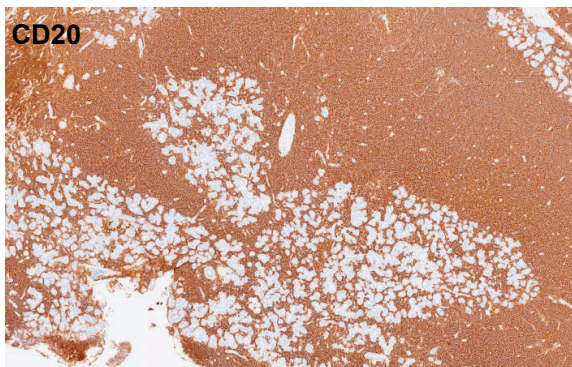


Fig 2a

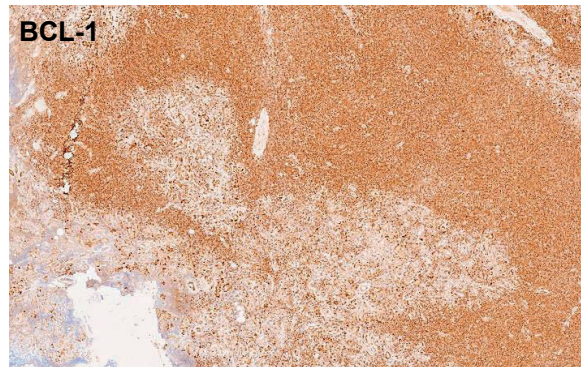


Fig 2b



Fig 2c

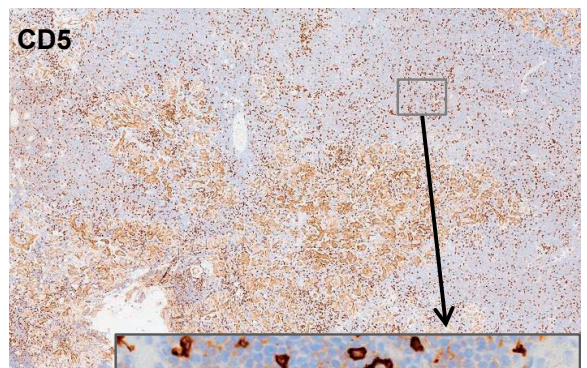


Fig 2d

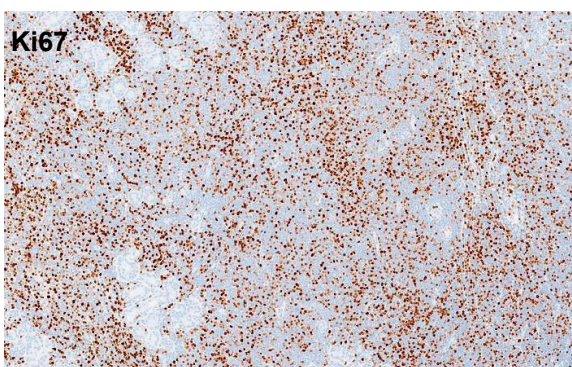


Fig 2e

Answers

1. Figures 1a and 1b show extensive infiltration of orbital tissue and the lacrimal gland with small-to-medium sized atypical lymphocytes, which are centrocyte-like with scant cytoplasm, cleaved and irregular nuclei with condensed chromatin. Mitoses are relatively frequent. The inset demonstrates the frequent mitotic figures (black arrows) along with a pale staining blast-like cell (characteristic of this lymphoma subtype; red arrow). The appearances are consistent with a non-Hodgkin lymphoma.
2. Immunohistochemistry to subtype the lymphoma would include: CD20 & CD79a (B-cell markers); CD3 & CD5 (T-cell markers, latter also subset of B-cells); CD23, BCL-1 (cyclin D1), BCL-2, surface IgM & IgD; and MNF-16 (a pancytokeratin marker to exclude carcinoma).
3. Representative panels show the neoplastic B-lymphocytes staining positively for CD20, BCL-1, IgD, IgM, CD5 (aberrant weak membranous and also dot-like positivity in the neoplastic B-cells amongst the strongly staining T-cells) and Ki67 growth fraction of approximately 45%. The cells were negative for CD23, CD3 and MNF-16. The histomorphologic and immunohistochemical features are those of a MANTLE CELL LYMPHOMA.
- Orbital lymphomas are most commonly low-grade primary extranodal marginal zone B-cell lymphoma or so-called 'mucosa-associated lymphoid tissue' (MALT) lymphoma. In this case, however, the lesions were secondary and revealed an intermediate to high grade B-cell lymphoma, which is relatively rare in orbital adnexal structures and the skin.
4. Translocation t(11;14) is often reported in this NHL subtype, leading to over-expression of BCL-1.

Eye News would like to thank previous Section Editor Dr Luciane Dreher Irion for her excellent work on this section since 2016, and welcome new quizmasters Professor Sarah E Coupland and Dr Yamini Krishna to the Pathology Quiz.

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