Palatal diffuse large B-cell lymphoma masquerading as an infiltrative bony mass

Non-Hodgkin lymphoma (NHL) accounts for 5% of malignancies of the head and neck. In adults, diffuse large B-cell lymphoma (DLBCL) is the most common form of NHL.\(^1\)\(^2\) Extravascular DLBCL is a rare tumor in the oral cavity,\(^3\) and DLBCL masquerading as an infiltrative bony mass is extremely rare. We described a rare extravascular DLBCL case and demonstrated its magnetic resonance imaging (MRI) features to help to differentiate it from other oral malignancies.

A 57-year-old man was referred to our clinic with a progressive, painful, enlarging mass of the left cheek for 2 weeks. Intraoral examination showed a firm mass with a rubbery and ulcerative surface over the left palate and left buccal mucosa (Fig. 1A). Radiographically, there was a 1.6 × 3.4 cm, irregularly shaped, rectangular radiolucency at the left maxillary alveolar bone (Fig. 1B). MRI revealed an ill-demarcated, infiltrative, heterogeneously enhanced mass (3.5 × 3.0 × 4.0 cm) in the left palatal region with involvement of the left maxillary alveolar ridge and extension into the left anterior maxillary sinus (Fig. 1C). The diffusion-weighted imaging (DWI) showed an obvious restricted diffusion in the lesion (Fig. 1D). The mean apparent diffusion coefficient (ADC) was 0.76 × 10\(^{-3}\) mm\(^2\)/second. Diffuse large B-cell NHL was histologically diagnosed. The tumor was found to contain atypical lymphocytes expressing CD20, bcl-2, bcl-6, and MUM1 but not CD3, CD10, or cyclin D1 (Fig. 1E and F). The Ki-67 proliferation rate was 90%. The patient was then referred to our hematology department and cyclophosphamide, hydroxydaunorubicin, Oncovin, prednisolone, and rituximab combination chemotherapy was immediately started. The disease was well controlled by the treatment after the clinic examination and image studies.

Generally, conventional MRI is limited in differentiating between squamous cell carcinoma (SCC), lymphoma, and other tumors. DWI is now used as a supportive tool for characterizing head and neck malignant tumors. The DWI in our case demonstrated an ADC of 0.76 × 10\(^{-3}\) mm\(^2\)/second, which was lower than the mean value for SCC and other malignant tumors of the head and neck.\(^4\) In our case, the ADC was used to rule out SCC and other oral malignancies such as anaplastic carcinoma and metastases from an unknown primary tumor having a similar presentation to that of NHL.

We conclude that DLBCL can masquerade as an infiltrative bony mass. This report highlights the importance of advanced imaging in the diagnosis of this very rare form of NHL.

References


Jyh-Ching Chen
Radiological Section of Chi Mei Medical Center, Liouying, Tainan, Taiwan

Wei-Fan Chiang
Oral Surgery Section of Chi Mei Medical Center, Liouying, Tainan, Taiwan

David Lu
Pathology Section of Chi Mei Medical Center, Liouying, Tainan, Taiwan

*Corresponding author. Radiological Section of Chi Mei Medical Center, 201, Taikang, Liouying District, Tainan City 736, Taiwan.

E-mail address: radio.frank@msa.hinet.net (Y.-K. Chang)

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Figure 1  (A) A firm mass with rubbery and ulcerative surface over the left palatal region. (B) The Panorex view shows an irregularly shaped, rectangular radiolucency at the left maxillary alveolar bone (arrows). (C) Magnetic resonance imaging spin echo T1-weighted (SE T1W) coronal view with contrast shows the heterogeneously enhanced mass with involvement of the left hard palate (short thin arrow), left maxillary alveolar ridge (long thin arrow), and extension into the left anterior maxillary sinus by breaking through the left anterior maxillary sinus wall (short white arrow). (D) Diffusion-weighted imaging axial view shows the lesion with a low apparent diffusion coefficient (ADC) value on the ADC map in areas of interest around the mass at the same level (arrow). The ADC was $0.76 \times 10^{-3}$ mm$^2$/second; (E) Histological examination of the tumor. Tumoral infiltration consists of atypical lymphoid cells with large nucleus and significant nucleolus (hematoxylin and eosin, 40×); (F) The tumor cells are also positive for CD 20 (immunoperoxidase stain).