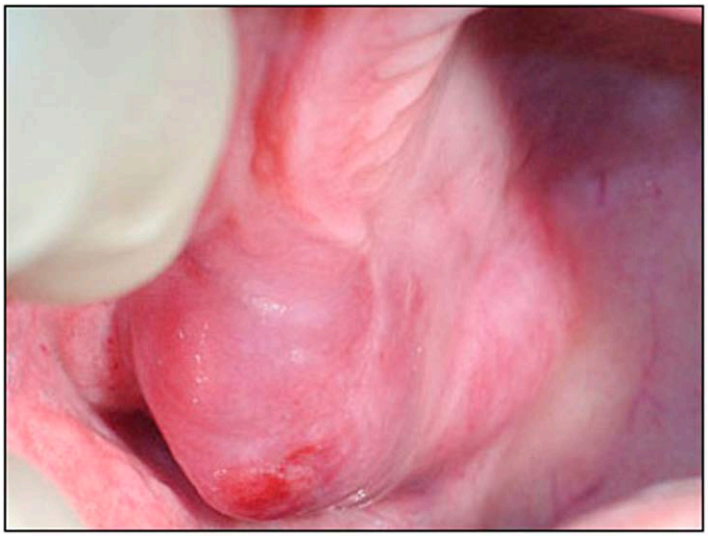
A Mass of the Tuberosity

Spencer Kemp, DDS; George Gallagher, DMD, DMSc



The following Case Challenge is provided in conjunction with the American Academy of Oral and Maxillofacial Pathology.

Case Summary

A 72-year-old male presented with a raised lesion in the area of the maxillary right tuberosity. The patient had become aware of the lesion only recently when his upper complete denture would not seat properly.

After you have finished reviewing the available diagnostic information, make the diagnosis.

Diagnostic Information

History of Present Illness

The patient had become aware of the lesion in the past two weeks as the mass was causing problems with his denture fitting properly. The mass was mildly tender to palpation but not spontaneously painful. The patient did not recall any recent trauma and said that he felt "okay" otherwise.

Medical History

The patient reported a history of type II diabetes which was controlled with glipizide. The remainder of his medical history was unremarkable and review revealed no other abnormalities.

Clinical and Radiographic Findings

Clinical exam revealed a 4.0 X 2.5 cm raised, partially fluctuant, multinodular mass of the right tuberosity (Figure 1). The lesion was bluish in color and compressible to palpation. The remainder of the oral cavity was within normal limits. A panoramic radiograph failed to reveal any obvious bony changes.

Incisional Biopsy Findings

On microscopic examination, the lamina propria was infiltrated by a solid mass of round mononuclear cells exhibiting mild pleomorphism (Figures 2 and 3). These cells contained enlarged, hyperchromatic nuclei with prominent nucleoli (Figure 4). Additional immunohistochemical stains revealed positive staining for leukocyte common antigen (LCA) and CD20. Staining for the keratin marker (AE1/AE3) was negative.

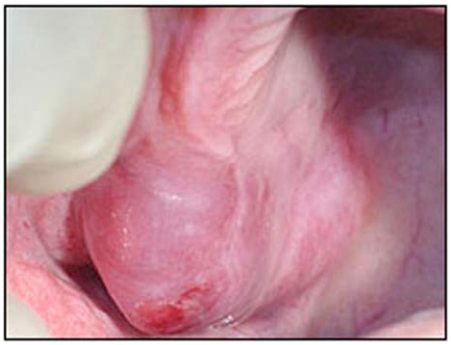


Figure 1. Raised, bluish mass of the maxillary right tuberosity.

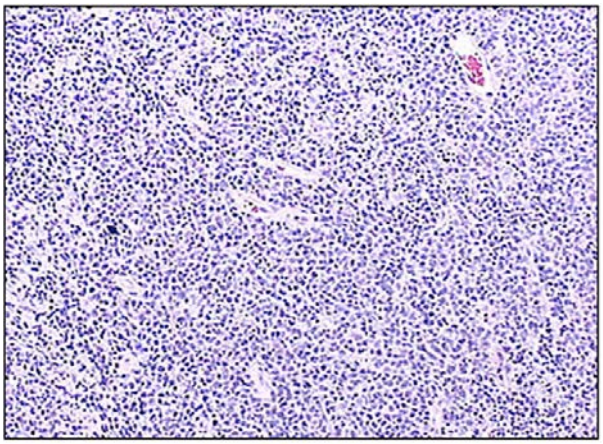


Figure 2. Low power photomicrograph showing a solid, monotonous sea of blue, round mononuclear cells.

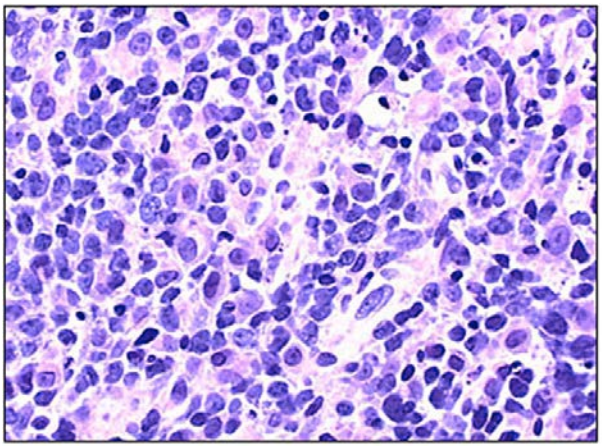


Figure 3. Medium power photomicrograph showing mild nuclear pleomorphism.

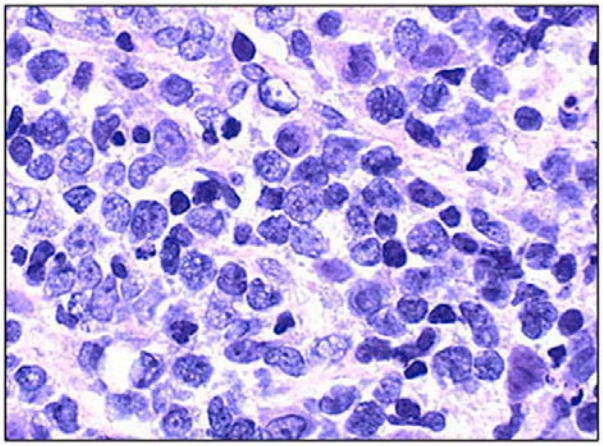


Figure 4. Close inspection at high power revealing enlarged, hyperchromatic nuclei with prominent nucleoli.

Can you make the diagnosis?

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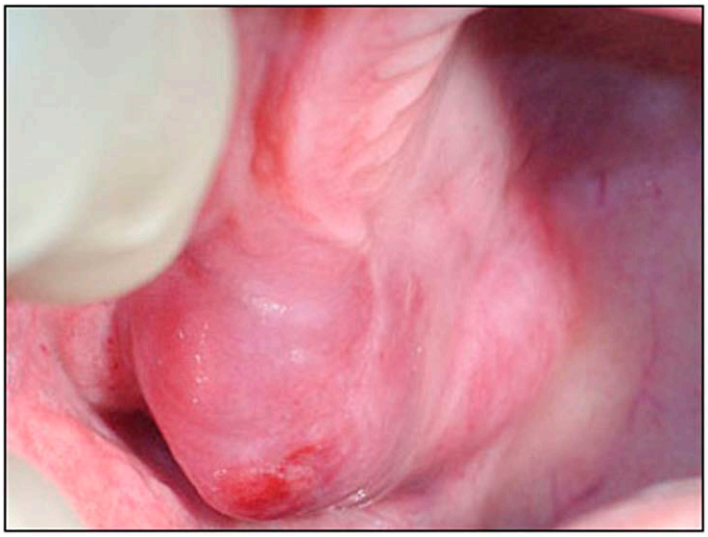

Select the Correct Diagnosis

A. Central Giant Cell Lesion
B. Lymphoma
C. Mucoepidermoid Carcinoma
D. Odontogenic Keratocys

Central Giant Cell Lesion

Choice A. Sorry, this is not the correct diagnosis.

Large aggressive giant cell lesions can cause expansion of jawbones and may be darkly pigmented by virtue of vascularity and hemosiderin deposition.[1] In this case, however, the patient is older than expected for a giant cell lesion and the microscopic images did not show the characteristic multinucleated giant cells expected in a giant cell lesion.

Please re-evaluate the information about this case.

Lymphoma

Choice B. Congratulations! You are correct.

Lymphoma is a malignant neoplasm composed of immature monoclonal lymphocytes. The neoplastic cells in this case are enlarged immature lymphoid cells that stained positively for the lymphocyte marker (LCA) and, more specifically, for a B-cell lymphocyte marker (CD 20).

Lymphoma is the second most common malignancy in the head and neck, following squamous cell carcinoma.[4] Lymphoma has classically been divided into Hodgkin's and non-Hodgkin's types, the current case representing the latter variety. Hodgkin's lymphoma usually presents as nodal disease with persistent enlargement of cervical lymph nodes.[5] Non-Hodgkin's lymphoma also occurs primarily as nodal disease, but it can present as primary disease affecting the oral cavity with or without simultaneous involvement of lymph nodes.[6]

Demographically, non-Hodgkin's lymphoma tends to affect older individuals with a mean age of about 70 at diagnosis.[7] Clinical presentation for oral lymphoma is commonly a compressible mass that may or may not show ulceration. The lesions, though usually asymptomatic, may occasionally be painful and the patients rarely complain of weight loss or fever.[8] Radiographic evidence of bone involvement in oral lesions has been reported in roughly 40% to 50% of cases.[9]

Non-Hodgkin's lymphoma is currently classified into several subtypes based on the cellular morphology and immunohistochemical staining profile of the neoplastic lymphocytes. The currently accepted classification system, established by the World Health Organization (WHO), has attempted to correlate subtyping with treatment and prognosis.[10] The majority of oral lymphomas are classified as the large B-cell subtype and tend to have an aggressive clinical course.[11] An approximate five year survival rate of 50% after treatment has been reported with this subtype. The treatment of choice for non-Hodgkin's lymphoma is radiation therapy for localized disease or multiagent chemotherapy for disseminated disease.[12]

Mucoepidermoid Carcinoma

Choice C. Sorry, this is not the correct diagnosis.

Mucoepidermoid carcinoma is the most common malignant salivary gland neoplasm, and it often does present as a bluish, fluctuant swelling.[3] However, the neoplastic cells in this case showed no mucous or epidermoid differentiation and the epithelial marker (keratin) was negative.

Please re-evaluate the information about this case.

Odontogenic Keratocys

Choice D. Sorry, this is not the correct diagnosis.

Expansion to the extent seen in this case is uncommon with an odontogenic keratocyst.

Keratocysts are obviously cystic on surgical exploration and usually are noted to contain "cheesy" material in the cyst lumen.[2] The microscopic images in this case showed a solid neoplastic process, not a cyst.

Please re-evaluate the information about this case.

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About the Authors

Note: Bio information was provided at the time the case challenge was developed.

Spencer Kemp, DDS

Dr. Kemp is an Assistant Professor in the Department of Oral and Maxillofacial Pathology at Boston University School of Dental Medicine.

Email: skemp@bu.edu

George Gallagher, DMD, DMSc

Dr. Gallagher is a Professor in the Department of Oral and Maxillofacial Pathology at Boston University School of Dental Medicine.

Email: ggalla@bu.edu