Asymptomatic "Bump" On Right Side Of Hard Palate

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Online Case: *www.dentalcare.com/en-us/professional-education/case-challenges/case-challenge-076*

The following Case Challenge is provided in conjunction with the UT Health San Antonio School of Dentistry faculty.

A 36-year-old female presents with an asymptomatic "bump" on the right side of the hard palate.

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

Diagnostic Information

History of Present Illness

A 36-year-old female physician presents to your office for a new patient examination. The patient is asymptomatic but noticed a "bump on the roof of my mouth" several months ago. She denies local trauma and all teeth in the area are asymptomatic and demonstrate normal vitality testing. A periapical radiograph of the affected area is within normal limits.

Medical History

- Adverse drug effects: none
- Medications: none
- Pertinent medical history: seasonal allergies
- Pertinent family history: paternal - alive and healthy, maternal - breast cancer survivor; no siblings
- Social history: denies tobacco, alcohol, and recreational drug use; patient is a marathon runner

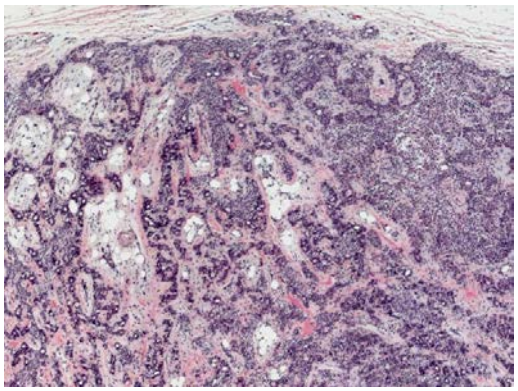
Clinical Findings

Extraoral examination is within normal limits. Intraoral examination reveals a well-defined, 1.5 x.1.5 cm smooth surfaced mass on the right side of the posterior hard palate, just anterior to the vibrating line (Figure 1). The overlying surface mucosa is intact. An incisional biopsy is performed and the tissue submitted for histopathologic examination.

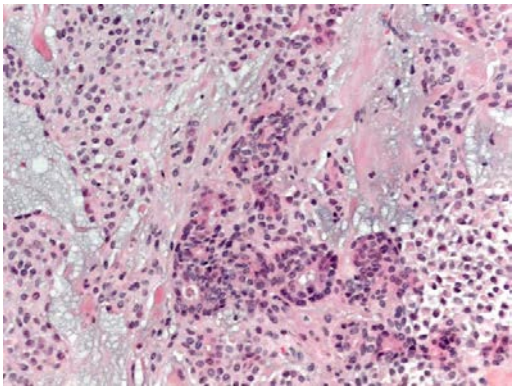
Figure 1. Smooth surfaced mass on the right posterior hard palate just anterior to the vibrating line.

Histopathologic Findings

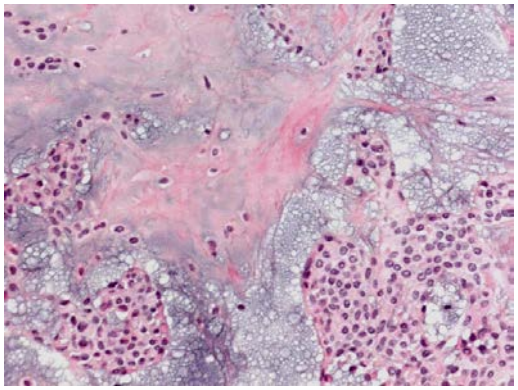
The incisional biopsy shows a circumscribed partially encapsulated glandular neoplasm composed of ductal epithelial cells, myoepithelial cells, and mesenchymal stromal elements. The myoepithelial cells display a plasmacytoid morphology with pink cytoplasm. The stroma consists of fibrohyaline to loose myxoid fibrous connective tissue with areas of cartilaginous matrix. No marked cytologic pleomorphism, mitotic activity, necrosis, or infiltrative growth are identified.



Figures 2. Low-power histologic image showing a circumscribed partially encapsulated glandular neoplasm composed of epithelial cells, myoepithelial cells, and stromal elements including fibromyxoid connective tissue and adipose tissue.



Figures 3. High-power histologic image showing ducts lined by epithelial cells with surrounding sheets of plasmacytoid myoepithelial cells and myxoid to pink hyaline stroma.



Figures 4. High-power histologic image with islands of plasmacytoid epithelial cells and myxoid to chondroid stromal elements.

Select Diagnosis

Can you make the diagnosis?

A 36-year-old female presents with an asymptomatic “bump” on the right side of the posterior hard palate.

Select the Correct Diagnosis

A. Pleomorphic adenoma
B. Mucoepidermoid carcinoma
C. Adenoid cystic carcinoma
D. Canalicular adenoma

Pleomorphic adenoma

Choice A. Congratulations! You are correct.

A pleomorphic adenoma (PA) is the most common salivary gland tumor and most often arises in the parotid gland or the palate. Most tumors occur in adults and a female sex predilection is noted. Clinical examination reveals a freely moveable, circumscribed mass that may vary from a few millimeters to a few centimeters in size. Intraoral examples usually display an intact overlying surface mucosa unless they are ulcerated secondary to trauma. A pleomorphic adenoma is derived from ductal epithelial cells and surrounding myoepithelial cells. Histopathologic examination reveals an encapsulated neoplasm composed of a proliferation of these cells set in a myxohyalinized stroma. The proliferative myoepithelial cells may be plasmacytoid in shaped and are responsible for the stromal changes characteristic of this neoplasm. These stromal changes include areas that appear similar to cartilage, osteoid, or fat. Small double layered ducts are also seen. Tumors arising in the parotid gland are treated by partial parotidectomy while those on the palate are treated by surgical excision. The prognosis is good, however; a PA may rarely undergo malignant degeneration.[1-3]

Mucoepidermoid carcinoma

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

A mucoepidermoid carcinoma (ME) is the most common malignant salivary gland neoplasm and the most common malignant salivary gland neoplasm in children. The majority of ME's arise in adults and a female sex predilection is noted. Cases usually arise in the parotid gland or the palate. Clinical examination reveals a painless mass with an intact or ulcerated surface. Size may vary dramatically. A ME may also arise centrally within bone. In this situation the tumor occurs in the posterior mandible and presents as a unilocular or multilocular radiolucency, often involving an impacted tooth. As the name indicates, a ME is composed of an admixture of epidermoid (squamous) cells and mucous cells. Variously sized cystic spaces may also be seen. Depending on specific histopathologic findings, a ME is graded as a low-grade, intermediate-grade, or high-grade neoplasm. The grading of this neoplasm is important since it will predict the prognosis: a low-grade neoplasm will behave better than a high-grade neoplasm. Treatment consists of complete surgical excision and a neck dissection is indicated if the neoplasm involves cervical lymph nodes.[1,3-4] The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Adenoid cystic carcinoma

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

An adenoid cystic carcinoma (ACC) is a malignant salivary gland neoplasm that commonly arises in minor salivary glands with the palate being the most common location. Major gland involvement is primarily seen in the parotid gland. The ACC most commonly occurs in middle-aged females. A unique clinical feature of this neoplasm is pain or paresthesia due to the ability of the tumor to wrap around nerve bundles. Clinical examination reveals a painless mass with an intact or ulcerated surface. Size may vary dramatically. Histopathologic examination reveals an unencapsulated proliferation of ductal and myoepithelial cells often arranged in a cribriform pattern (Swiss cheese). Tubular and solid growth may also be seen. Adenoid cystic carcinoma is difficult to treat due to the ability of this neoplasm to wrap around nerve bundles. Wide surgical excision is the treatment of choice. The 5-year survival rate is good but the 20-year survival rate falls dramatically, mostly due to local recurrence and distant metastases.[1,3,5] The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Canalicular adenoma

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

A canalicular adenoma is an uncommon variant of monomorphic adenoma that arises almost exclusively in the minor salivary glands of the upper lip. This neoplasm occurs in older adults and a female sex predilection is noted. A unique feature of this neoplasm is that it may arise as a multifocal proliferation within the affected gland. Clinical examination reveals a freely moveable, bluish to mucosal colored mass. Histopathologic findings include well-delineated proliferation of single-layered cords of cuboidal epithelial cells arranged in canal-like structures set in fibrous connective tissue. Unlike a pleomorphic adenoma, no stromal alteration is noted. Treatment consists of surgical excision and the prognosis is excellent.[1,3,6-7] The clinical findings and histopathologic features in this case do not support this diagnosis.

Please re-evaluate the information about this case.

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Anne Cale Jones graduated from the University of Alabama in 1981 with the Bachelor of Science degree (Magna Cum Laude) in Natural Sciences. She received a Doctor of Dental Surgery degree (Magna Cum Laude) from the Medical College of Virginia, Virginia Commonwealth University in 1986. Following a three-year residency program in Oral and Maxillofacial Pathology at Booth Memorial Medical Center in Queens, New York, Dr. Jones joined the faculty at the University of Florida, College of Dentistry. In 1998, she became a faculty member at The University of Texas Health Science Center at San Antonio. She is currently a Distinguished Teaching Professor in the Department of Pathology and is board certified by the American Board of Oral and Maxillofacial Pathology.

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