Pleomorphic Adenoma of the Palate: Clinicoradiological Case Report

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ABSTRACT
Salivary gland tumors are a relatively rare and morphologically diverse group of lesions. Pleomorphic adenoma is a benign tumor of the salivary gland that consists of a combination of epithelial and mesenchymal elements. The tumor most commonly arises from the parotid (60-70%) or submandibular glands. It develops less frequently in a minor salivary gland, presenting as an intraoral mass dependent on the palate. Pleomorphic adenoma rarely causes bony erosion or destruction. Here, we present a case of benign pleomorphic adenoma of the minor salivary gland originating on the palate causing bony erosion of the alveolar ridge. The clinical, radiological, computed tomographical and histopathological aspects are discussed.

Keywords: Pleomorphic adenoma, Minor salivary gland, Palate, Bony erosion.

INTRODUCTION
Salivary gland tumors are uncommon, representing only 3% of all neoplasms of the head and neck. The pleomorphic adenoma or mixed tumor constitutes approximately 90% of all benign salivary gland lesions.1 Of mixed tumors in the cervicofacial region, 92.5% are found in the major salivary glands. Of these, 84% are located in the parotid gland, and 8% arise in the submandibular gland. Only 6.5% are found in the minor salivary glands.2

If the tumor occurs in the minor salivary glands, the most common site is the palate, but this tumor can also occur in other sites including the upper lip, cheek, floor of the mouth, larynx and trachea.3 Tumors of the minor salivary glands do not have a fibrotic capsule (they have a very thin capsule) and they may have a false infiltrative appearance and may cause bony erosion.4

Here, we report an uncommon case of pleomorphic adenoma of the palate which causes bony erosion of the alveolar ridge.

CASE REPORT
A 45-year-old male patient reported to our department complaining of painless swelling on right side of the palate since 3 years. The swelling was asymptomatic but causing discomfort to the patient while talking and chewing. The swelling appeared as a small nodule on the palate which enlarged slowly to reach the present size.

Fig. 1: Intraoral clinical picture revealing the extent of the lesion on the palate on right side
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A swelling was firm in consistency with definable margins. No signs of inflammation were evident on inspection and palpation. Intraoral periapical (IOPA) radiograph revealed superficial erosion of the residual alveolar ridge in relation to 18 (Fig. 2). Panoramic imaging showed generalized bone loss but there was no periapical involvement of any tooth in the maxillary right quadrant. Contrast-enhanced computed tomography of the palate revealed a well-defined, soft tissue attenuating, solid lesion with mild postcontrast enhancement measuring 21 × 20 × 14 mm. The margins of the lesion appeared to be smooth, but there was apparent bony erosion of the alveolar crest in the molar region (Fig. 3). The provisional diagnosis of benign pleomorphic adenoma was given and incisional biopsy was performed. The histopathologic examination revealed the presence of cystic spaces surrounded by glandular epithelium arranged in the form of ducts. Ducts were surrounded by round to spindle-shaped myoepithelial cells with prominent dark nuclei and clear cytoplasm. The stroma is myxoid at few areas with the presence of hyalinized material in the stroma (Fig. 4). The histopathology report confirmed the provisional diagnosis of pleomorphic adenoma.

**DISCUSSION**

Tumors arising in the minor salivary glands account for 22% of all salivary gland neoplasms. Majority of them are malignant with only 18% being benign. Tumors of the minor salivary glands are responsible for 2 to 4% of tumors of the head and neck, 10% of tumors of the oral cavity and 15 to 23% of tumors of the salivary glands. Approximately, 750 minor salivary glands are found in the oral cavity, nasal cavity, paranasal sinuses and pharynx. The majority of these glands are found at the junction of the hard and soft palate. The most frequent location of pleomorphic adenoma of a minor salivary gland is the hard palate, followed by the lips, oral mucosa, floor of the mouth, tonsil, pharynx, retromolar area and nasal cavity.

Pleomorphic adenomas do not usually present a sexual predisposition and they can appear at any age with the same clinical behavior. They are generally round, slow-growing tumors that are painless and firm in consistency, those arising from the palate may cause discomfort to the patient while chewing and difficulty in speaking.

Computed tomography (CT) scanning is the best for bony involvement in palatal lesions, and magnetic resonance imaging (MRI) is better to display soft tissue invasion or perineural spread. These help in determining the extent of disease, local spread and also help to some extent in determining the type of tumor. Contrast enhancement is seen in vascular and neurogenic tumors. Presence of intact fat plane helps in distinguishing benign tumors from malignant ones. Because intraoral radiography and panoramic radiography showed no pathologic changes of the bone in the present case except superficial bony erosions, CT was necessary for further preoperative diagnostic evaluation. Because it had distinct margins, the lesion was considered to be benign without any cystic appearance.
Only when the vascular nature of the tumor is ruled out, fine needle aspiration or incisional biopsy can be performed prior to surgery, in order to get the primary histological diagnostic. Microscopically, pleomorphic adenomas of the minor salivary glands consist of epithelial cells and mesenchymal elements that tend to be more cellular, with less myxoid or chondroid component and located within the submucosa in contrast with tumors of the major salivary glands. Tumors of the minor salivary glands do not have a fibrotic capsule (they have a very thin capsule) and they may have a false infiltrative appearance.

The treatment of pleomorphic adenoma is essentially surgical. Though these tumors are apparently well encapsulated, resection of the tumor with an adequate margin of grossly normal surrounding tissue is necessary to prevent local recurrence as these tumors are known to have microscopic pseudopod like extension into the surrounding tissue due to ‘dehiscences’ in the false capsule. Pleomorphic adenoma is treated by local excision with 0.5 to 1 cm margins. Enucleation will lead to recurrence. Except in the case of larger neglected tumors, reconstruction may be by primary or secondary healing or the use of local flaps. Bony excision is usually not required as pleomorphic adenoma does not invade bone, although it may cause pressure resorption.

The prognosis will be excellent if resection is adequate. Irradiation is reserved for recurrences and inoperable cases. Malignant transformation has been reported (2-9%), generally to adenocarcinoma or undifferentiated carcinoma. The risk of malignancy increases with the duration of the tumor and mean age of the patient. Regular follow-up is required to detect local recurrence and malignization.

Pleomorphic adenoma arising de novo on the palate is of uncommon occurrence, but should be considered in the provisional diagnosis of the chronic asymptomatic palatal swellings. The timely management of pleomorphic adenoma prevents suspicious malignant changes and increases patient compliance.

REFERENCES