

Case report

Pleomorphic adenoma of palate: differential diagnosis and case report

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Abstract:

Pleomorphic adenoma of minor salivary gland is most common in palate (10%), followed by lip (4%). Approximately 34.7-67.1% of salivary gland tumors arising from an intraoral site are benign. The smaller the salivary gland that is affected, the more likely it is to trigger a malignant tumor. The propensity of malignant transformation is documented to be 1.9-23.3%, hence any suspected minor salivary gland tumor should be keenly scrutinized. A case report of 28-year old male patient diagnosed of pleomorphic adenoma of palate, is presented here.

Key words: differential diagnosis, palate, pleomorphic adenoma

Introduction

Salivary gland tumors account for 3% of the head and neck tumors. Pleomorphic adenoma is the most common salivary gland tumor, accounting for about 40–70 % of all major and minor salivary gland tumors.¹ It accounts for 53% to 77% of parotid tumors, 44% to 68% of submandibular tumors and 33% to 43% of minor gland tumors.² Pleomorphic adenoma can be defined as a benign mixed tumor composed of epithelial and myoepithelial cells arranged with various morphological patterns, demarcated from surrounding tissues by fibrous capsule.³ They have dual origin from epithelial and myoepithelial elements.^{1,4} It derives its name from the architectural pleomorphism seen by light microscopy and is also known as “mixed tumor, salivary gland type”.⁴ The most common site of this tumor in the oral cavity is the palatal area followed by the lip, buccal mucosa, floor of the mouth, tongue, tonsil, pharynx, and retro molar area.¹

The diagnosis of pleomorphic adenoma is established on the basis of history, physical examination, cytology and histopathology. Computed tomographic scan and MRI can provide information on the location, size of the tumor and extension to surrounding superficial and deep structures. The treatment is strictly wide local excision with the removal of periosteum or bone if they are involved.^{1,4}

Case report

A 28-year-old male presented with a slow growing swelling, of approximately 6month duration involving his hard and soft palate junction on the left side. An asymptomatic peanut sized swelling was noticed by the patient before 6months which gradually increased in size causing difficulty in mastication, speech and swallowing which raised concern to the patient so he sought medical advice. The patient’s medical history was noncontributory. General physical examination revealed a well

oriented and moderately built individual with no signs of any systemic illness.

The intraoral examination revealed a smooth, nonulcerated, dome-shaped, palatal swelling of size approximately 3.5x3x3cm on his hard palate, encroaching the midline. On palpation, the swelling was firm, non-tender, non-fluctuant, non-compressible and non-reducible. Clinically all teeth were present except third molars in all quadrant. No displacement or mobility of teeth was found and all teeth were vital. (Figure 1) The clinical findings were suggestive of minor salivary gland tumor. To conclude the diagnosis various investigations were done.

Intraoral periapical radiograph, maxillary occlusal radiograph, paranasal sinus view and orthopantomogram revealed normal tooth structure with no bony changes ruling out the possibility of odontogenic cause. (Figure 2) Contrast enhanced computed tomography report revealed a well-defined cystic lesion arising from the mucosa of undersurface of hard palate and soft palate on left side, projecting into the oral cavity and causing scalloping and thinning of adjacent hard palate. (Figure 3) On the basis of clinical and radiographic findings, benign salivary gland tumor was considered as the provisional diagnosis. Fine needle aspiration cytology was performed, which was suggestive of pleomorphic adenoma. All preoperative blood and urine investigations were done, which were within normal limits. Wide local excision of the mass was done (Figure 4A, B). The excised mass was sent for histopathological examination, which revealed biphasic appearance of tumor with epithelial and stromal component. Epithelial component showed well differentiated ducts and ductules lined by flattened and cuboidal cells. Stroma showed

chondromyxoid appearance. At places squamous metaplasia was evident. (Figure 5) This confirmed the diagnosis as pleomorphic adenoma. Post-operative healing after 10 days was normal (Figure 6). No recurrence of the lesion was noted on 1 year follow up.

Discussion

Pleomorphic adenoma of minor salivary gland is most common in palate (10%), followed by lip (4%). Approximately 34.7-67.1% of salivary gland tumors arising from an intraoral site are benign.⁵ The smaller the salivary gland that is affected, the more likely it is to trigger a malignant tumor. The propensity of malignant transformation is documented to be 1.9-23.3%,⁵ hence any suspected minor salivary gland tumor should be keenly scrutinized.

The tumor can occur at any age but it mainly affects patients in the fourth, fifth and sixth decade, with a slight female predilection^{2,4} with a ratio of 2:1.³ Clinically, pleomorphic adenoma of palatal minor salivary glands presents as a painless, slowly growing, dome shaped, firm, non-tender swelling, commonly seen on the posterior lateral aspect of the palate.^{3,4,5} Because of tightly bound nature of the hard palate mucosa, it appears to be fixed. While in cases of lips and buccal mucosa, it is freely movable. The more common palatal mixed tumors are located laterally and rarely cross the midline.⁶ This presentation is due to the highest concentration of salivary glands there.⁴ The patient in the presented case was of 28 year old male having typical clinical presentation of pleomorphic adenoma.

The differential diagnosis for this case includes chronic abscess, benign tumors such as soft tissue tumors (fibroma, lipoma, neurofibroma, neurilemmoma, lymphoma, and other benign and

malignant salivary gland tumors), fibro-osseous lesion (ossifying fibroma.) . Palatal abscess could be ruled out by clinical examination since the source of a palatal abscess, which is typically a non- vital tooth in the vicinity or a localized periodontal defect, was not found in our case. Owing to absence of history of constant trauma and the size of the lesion, fibroma could be ruled out. Most oral lipomas exhibit the characteristic yellow color of adipose tissue, which is visible through the thin overlying epithelium, consistency varying from soft to firm depending on the quantity of fibrous tissue in it,⁷ hence ruling out the possibility of lipoma in this case. Neurilemoma, neurofibroma, extranodal lymphoma and other benign and malignant salivary gland tumors may present as swelling identical to that of pleomorphic adenoma, hence importance of histopathological evaluation must not be neglected. Also, incidence of neurilemmomain palate is only 7-9%⁸ and neurofibroma of oral cavity is more prevalent in posterior mandible.⁹ Ossifying fibroma is a fibro-osseous lesion having concentric growth pattern which causes expansion of buccal as well as palatal cortical plate whereas there was only palatal expansion in the presented case.

Plain X-rays play insignificant part in the diagnosis of salivary gland tumor of the palate.¹In the present case also, the conventional radiographs failed to show any bony changes whereas the lesion was well appreciated in the CT images as it shows scalloping

and thinning of hard palate favouring benign salivary gland tumor. FNAC can help determine severity of neoplasm, identify histological subtype⁵ and determine whether the tumor is malignant in nature with 90 % sensitivity.^{1,10} FNAC in the reported case was diagnostic of pleomorphic adenoma with no evidence of malignant changes. To confirm the diagnosis, histopathological analysis was done and it showed no evidence of any malignant change. The treatment of pleomorphic adenoma is strictly wide local excision with the removal of periosteum or bone if they are involved.^{1,4} Pleomorphic adenomas of the minor glands have little propensity for recurrence as compared to that of parotid gland.⁴ However, recurrence if at all occurs can be attributable to inadequate surgical techniques such as simple enucleation leaving behind microscopic pseudopod-like extensions, capsular penetration, and tumor rupture with spillage of tumor cells.^{1,3,4} No signs of recurrence were evident in the present case.

Conclusion

Pleomorphic adenoma, though a common entity should be thoroughly evaluated owing to its diverse histological property and increased risk of malignant transformation. Definitive diagnosis lies on histopathological examination. CT is necessary for ruling out bony erosions and treatment by wide local excision with removal of periosteum and curettage of bone lowers the risk of recurrence.

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Figure 1 shows a smooth, nonulcerated, dome-shaped, palatal swelling of size approximately 3.5x3x3cm on his hard palate, encroaching the midline.



Figure 2 shows intraoral periapical radiograph, maxillary occlusal radiograph, paranasal sinus view and orthopantomogram revealing normal tooth structure with no bony changes.

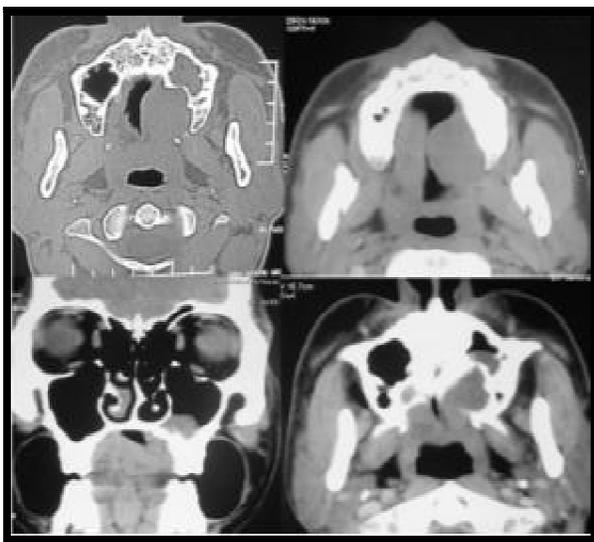


Figure 3 shows contrast enhanced computed tomography suggestive of well-defined cystic lesion arising from the mucosa of undersurface of hard palate and soft palate on left side, projecting into the oral cavity and causing scalloping and thinning of adjacent hard palate.

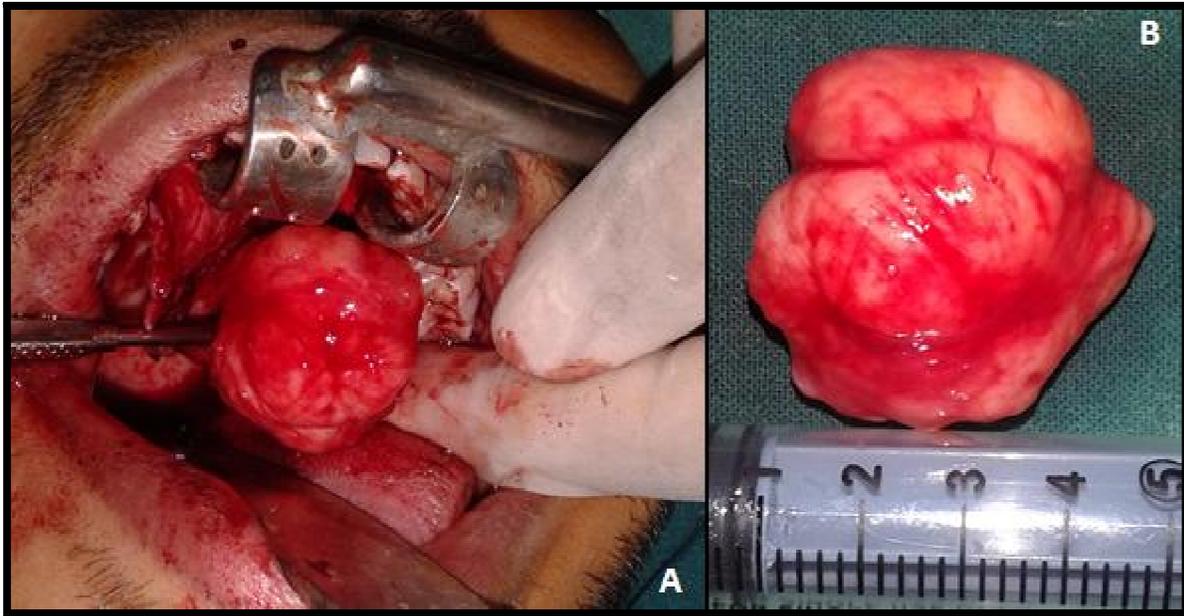


Figure 4 shows operative procedure of enucleation of pleomorphic adenoma (A) and enucleated lobulated tumor mass (B).

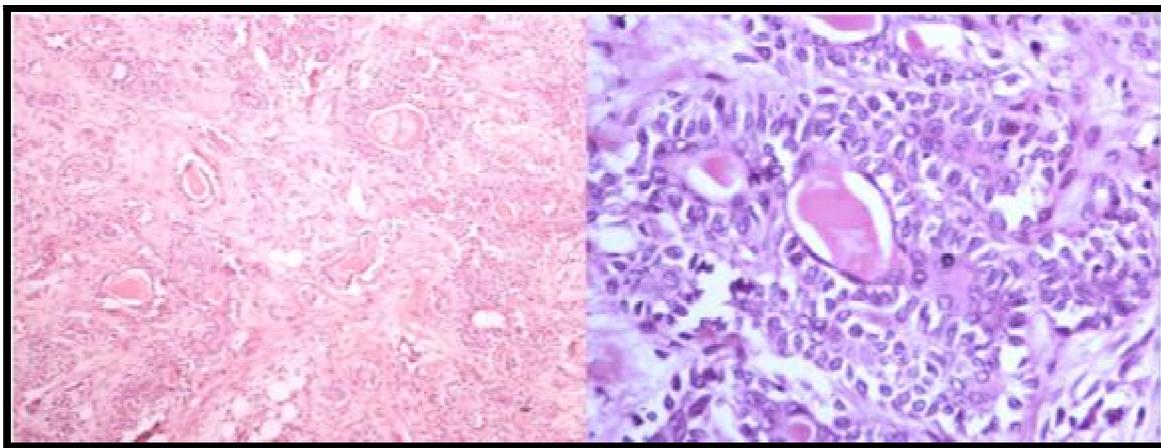


Figure 5 shows biphasic appearance of tumor with epithelial and stromal component. (H & E stain)



Figure 6 shows post-operative 10days follow up image of lesion site after.