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PLEOMORPHIC ADENOMA WITH PREDOMINANT MYOEPITHELIAL CELLS OF THE HARD PALATE: RECONSTRUCTION WITH PEDICLED BUCCAL PAD OF FAT – A CASE REPORT

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ABSTRACT:. Pleomorphic adenoma is a mixed tumor of salivary gland origin presenting frequently in major salivary glands and sporadically in minor salivary glands. It is a benign tumor with both epithelial and mesenchymal tissues. Salivary glands in general may present with a diverse range of lesions posing a challenge to even the most experienced clinician. Resection with surrounding dispensable normal tissues is the key to successful management of such tumors. This case report illustrates an enormous pleomorphic adenoma of minor salivary gland in the hard palate of 10 years duration.

KEYWORDS: Palate, Pleomorphic adenoma, Minor salivary gland tumor

INTRODUCTION

Pleomorphic adenoma is a benign salivary gland tumor which represents about 3-10% of neoplasms of the head and neck region. 80% percent parotid gland tumors are pleomorphic adenomas. Among intra oral salivary gland tumors, palate(42.63%) is most commonly affected followed by lip(10%), buccal mucosa (5.5%), retromolar area (0.7%) and lastly affecting the floor of mouth.[1] Pleomorphic adenoma typically presents as a mobile slow growing painless firm swelling that does not causes ulceration of the overlying mucosa but these tumors are known to cause underlying bone erosion.[2]

Case Presentation

A 55 year old male patient was referred by his ENT surgeon for evaluation of a palatal lesion. The patient gave a history of slowly growing, painless swelling on the hard palate since 10 years. He had no history of ulceration, bleeding, drainage, or paresthesia. But there was history of dysphagia and difficulty in speech lately. No relevant medical history or surgical history was stated by the patient. He had no known drug allergies. He denied the use of tobacco, alcohol, or illicit drugs. General physical examination revealed a well oriented and moderately built individual with no signs of any systemic illness.

On clinical examination, a 5x4x4 cm dome shaped non ulcerated mass was noted in the mid-line of hard palate predominantly towards the left side. (**Fig.** 1).The mass was extending anteriorly from palatal rugae to junction of hard and soft palate posteriorly, laterally it was adherent to the left attached gingiva and marginal gingiva in the molar region. The mass was firm, multinodular, covered with intact mucosa that was normal in appearance and non tender on palpation. There were no other lesions present in the orofacial region and no evidence of lymphadenopathy.

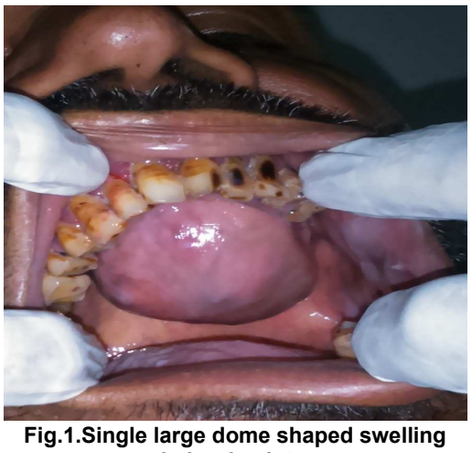

Fig.1.Single large dome shaped swelling in hard palate.

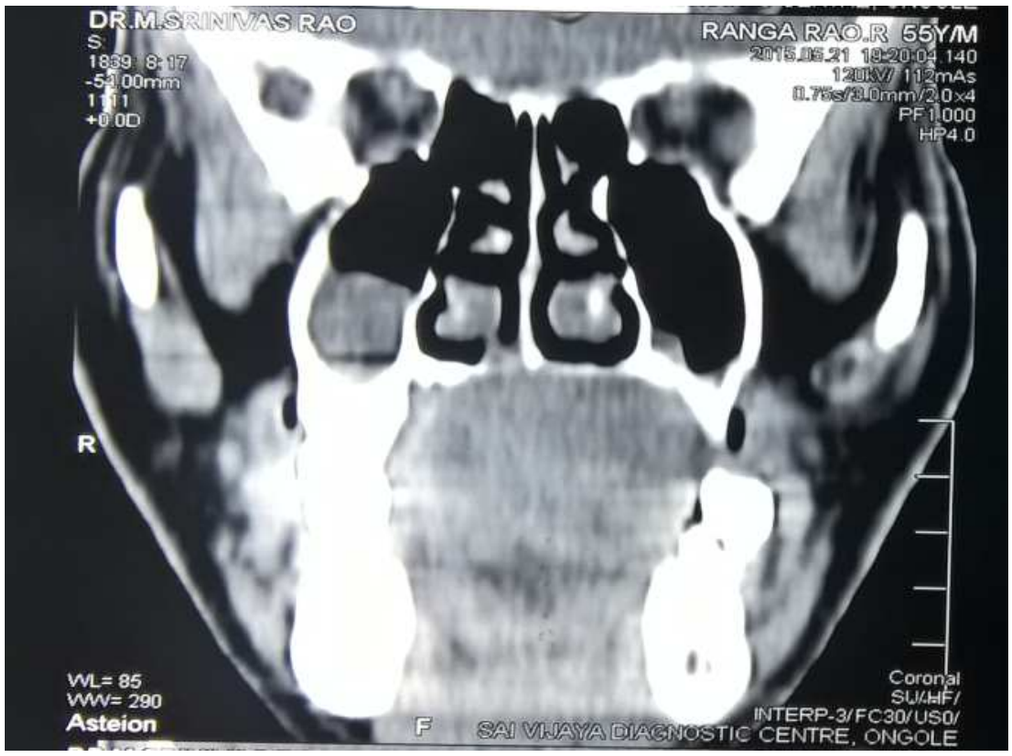

Fig.2. CT coronal view showing hypodense area along the under surface of hard palate

Radiographic examination, consisting of orthopantomogram (OPG) was unable to disclose any apparent lesion. Contrast enhanced computed tomography (CT) showed large, hypodense mass seen along the undersurface of hard palate in oral cavity predominantly towards left side (**Fig. 2**). Minimal erosion of hard palate and left nasal floor adjacent to nasal septum was observed. There was no calcification, cystic component or fat within the mass. Mucosal thickening was noted in both maxillary sinuses and without any breach of maxillary sinus.

An incisional biopsy was done; specimen was taken from the core of the lesion and sent for histopathological examination which revealed tumor arising from minor salivary gland with predominant plasmacytoid differentiation of myoepithelial cells. Few ductal structures and cystic changes were appreciated which was suggestive of pleomorphic adenoma.

All preoperative blood and urine investigations were done, which were within normal limits. The patient was scheduled for wide local excision of the mass under general anesthesia through endotracheal intubation. An incision was made circumferentially around the lesion and it was dissected from the underlying hard palate by sharp and blunt dissection (**Fig. 3**). The whole encapsulated tumor mass was excised along with mucoperiosteum taking care of any remnants over the bony margins with curettage (**Fig.** 4). There was no oro-antral communication noted following excision.

Reconstruction of the denuded bone was performed with pedicled buccal pad of fat which was harvested from left side of cheek. It was secured over the bone by suturing it to opposite side of intact mucosa with 3-0 vicryl. A releasing incision was made from the hamular notch area up to the level of first premolar, full-thickness lateral flap was undermined and brought medially and sutured over the palatal defect.

The remaining lateral defect was covered with collagen graft (**Fig. 5**). A prefabricated acrylic stent was secured in the patient's mouth to prevent hematoma formation and to maintain the flap in position (**Fig. 6**). The surgical site healed uneventfully with no signs of recurrence in 2 months follow up (**Fig. 7**).

The excised mass was sent for histopathological examination which was confirmatory of pleomorohic adenoma with predominant component of plasmacytoid differentiation of myoepithelial cells. **(Fig.8 and Fig.9).**

Fig. 3.Surgical site after removal of lesion

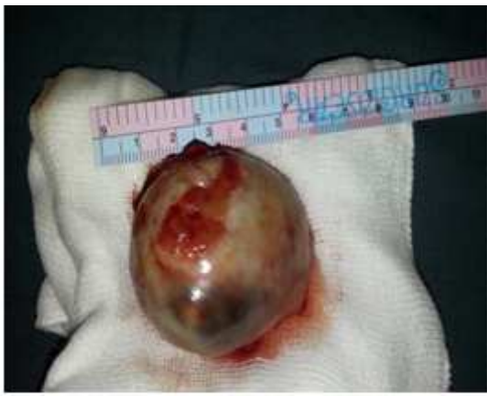

Fig. 4. Excised specimen

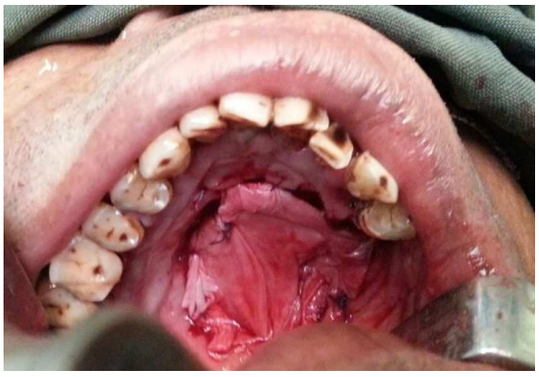

Fig. 5. Closure of surgical site with buccal fat pad and collagen membrane sheet

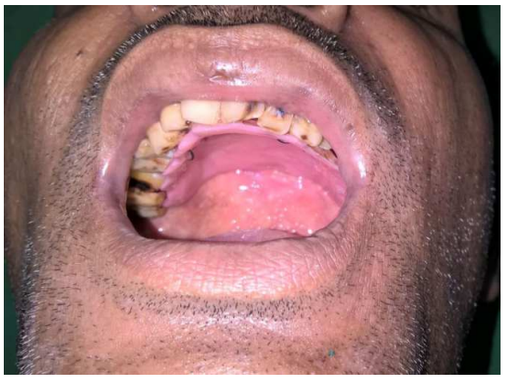

Fig. 6. palatal Obturator

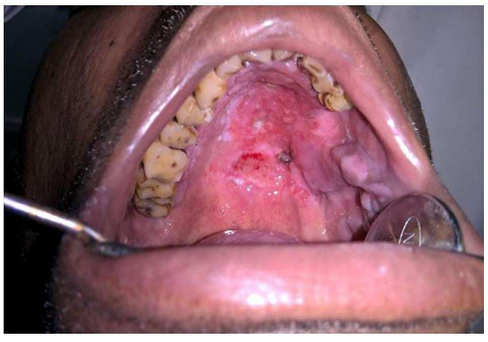

Fig. 7.Two months post operative healing

Discussion

Among the salivary gland tumors pleomorphic adenoma is the frequent benign tumor whereas mucoepidermoid carcinoma is the common malignant tumor. Spiro RH in his study of 2078 patients with salivary gland neoplasia reported that 20-40% of all salivary gland tumors arise from minor salivary glands. [3]

Recent studies have demonstrated that the tumor has epithelial origin with clonal chromosomal abnormalities comprising aberrations with 8q12 and 12q15 and translocations pertaining to chromosomes # 3 and # 8.[4]

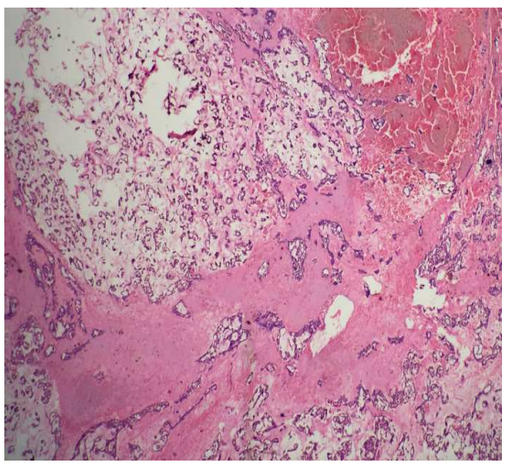

Fig. 8. Photo micrograph showing typical cellular areas surrounded by hemorrhagic , hyaline and myxoid stroma

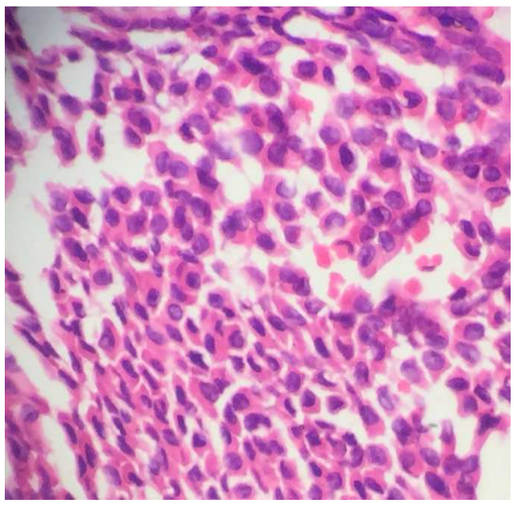

Fig. 9. Photo micrograph showing plasmacytoid myoepithelial cells with eosinophilic cytoplasm and eccentric nuclei

Pleomorphic adenoma intra orally appears as unilateral slow growing non tender firm mass that may become large if untreated. Though benign in nature, literature reports locally aggressive behavior due to lack of the presence of fibrous capsule invading and eroding adjacent bone producing radiolucency and mottling on radiographic imaging.[5]

The diagnosis of PA is established on the basis of history, physical and histopathological examination. Plain X-ray and hematological investigations have limited role in diagnosis of minor salivary gland tumors. Occlusal view may assist by showing the extent of bony erosion. C.T scan may be helpful in evaluating the erosion of the palate and assess the extension of tumor into the nasal cavity or into the sinus. A histopathological diagnosis is essential for a confirmatory diagnosis. [6]

The differential diagnosis of slow growing palatal masses can be intricate by simple clinical examination and imaging studies and often require FNAC or biopsy for accurate diagnosis. The possible diagnosis can be varying from simple odontogenic or periodontal infections to squamous cell carcinoma, salivary gland tumors, soft tissue tumors, malignant lymphoma, or vascular lesions.[7]

Simple enucleation of the tumor has been reported with high recurrence. Wide surgical excision along with mucoperiosteum and curettage of the underlying bone when involved is preffered.

Reconstruction of the palate should be considered for functional and esthetic reasons. In the present case, soft tissue defect of palate covered with pedicled buccal pad of fat and collagen membrane sheet, there was no hard tissue defect. Stabilization of buccal pad of fat was done by suturing with adjacent mucosa and by palatal obturator. Healing was satisfactory after 2 months of follow up.

CONCLUSION

Pleomorphic adenoma though a frequent entity in minor salivary glands of hard palate poses a challenge to the surgeon, radiologist and pathologist due to its varied histological and topographical nature. It should be included in differential diagnosis of all palatal swellings. In adequate excision corresponds to risk of recurrence or malignant transformation and long term follow up is warranted.

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