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Case Report

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Pleomorphic Adenoma of Hard Palate: A Case Report

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ABSTRACT

Pleomorphic adenoma is a benign and most common tumor of both major and minor salivary glands. Majority of the minor salivary glands' tumor are malignant. However, pleomorphic adenoma is the most common neoplasm of palate. Large pleomorphic adenoma in palate may cause pressure erosion of palate mimicking malignant pathology. Imaging with Computed tomography or Magnetic Resonance Imaging is important for surgical planning of the tumors in the uncommon location like palate. Here, we present a case of histopathologically proven pleomorphic adenoma of palate which was evaluated with CT scan prior to wide local excision.

Keywords
CT; palate; pleomorphic adenoma

INTRODUCTION

Pleomorphic adenoma is a benign salivary gland neoplasm. It is a mixed tumor comprising of epithelial and mesenchymal components.[1] It is the most common salivary gland tumor representing 60-73% of parotid tumors, 40-60% of submandibular and minor salivary gland tumors.[2]It most commonly presents in fourth and fifth decade of life and is more common in women.[3]Compared to major salivary gland tumors, greater proportion of minor salivary gland tumors are malignant accounting for half of all salivary gland carcinomas[4], pleomorphic adenoma is however the most common neoplasm of minor salivary gland as well. In minor salivary gland, most common site of pleomorphic adenoma is palate (10%) followed by lip (4%). Few may occur in unusual site like sinuses, larynx, epiglottis and trachea. [3] Larger palatal pleomorphic adenomas may cause pressure erosion as well as destruction of palatine bone which can be well demonstrated by computed tomography (CT) scan.[2] In a retrospective study done on cases of pleomorphic adenoma encountered in a tertiary referral Hospital in Nepal from 2004 to 2009, only 2 cases of palatal pleomorphic

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adenoma were encountered out of total 32 cases.[5]

Here, we present a case of histopathologically proven pleomorphic adenoma of hard palate which was evaluated with CT scan prior to excision.

CASE PRESENTATION

A 56-year-old female presented with painless, progressive palatal swelling for 2 years (figure 1). It was associated with occasional bleeding in the form of blood tinges in saliva, which used to subside on own. On examination, approximately 2.5x2.5 cm sized mass was seen in central and left paramedian aspect of hard palate . No ulceration of overlying mucosa seen at the time of examination despite the history of occasional bleeding. Mass was mobile and rubbery in consistency .

For further evaluation, contrast enhanced CT (CECT) of oral cavity and neck was done which showed well defined, smoothly marginated 3x2.5x1.6 cm sized mildly hyperdense mass with attenuation value of 60-70 HU in unenhanced image. No calcification or obvious fat component seen. It showed heterogeneous post contrast enhancement with post contrast attenuation value of 90-95 HU. Mass was involving central and left side of hard palate extending towards soft palate and causing smooth scalloping and thinning of underlying hard palate without obvious dehiscence (figure 2 and 3). The mass was reaching upto opening of greater palatine foramen, however not extending into the foramen. No foraminal widening or erosion was seen. (figure 4) No evidence of significantly enlarged cervical lymphnodes were noted.

Fine Needle Aspiration Cytology (FNAC) was done from the mass which showed clusters and fragments of epithelial cells with moderate amount of cytoplasm and round to oval nuclei . Small

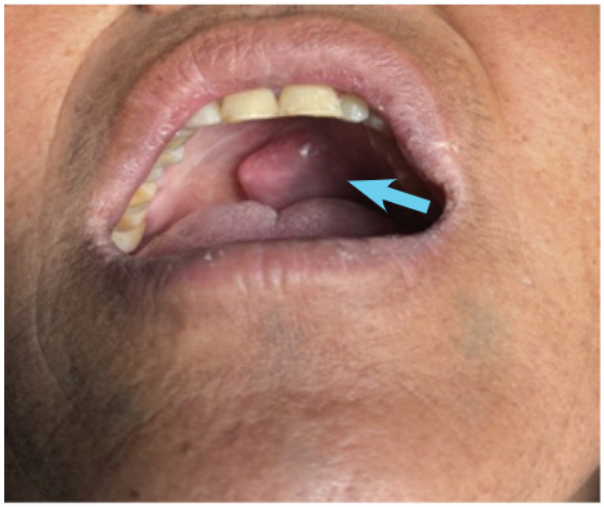

Figure 1. *Swelling in left paramedian aspect of palate*

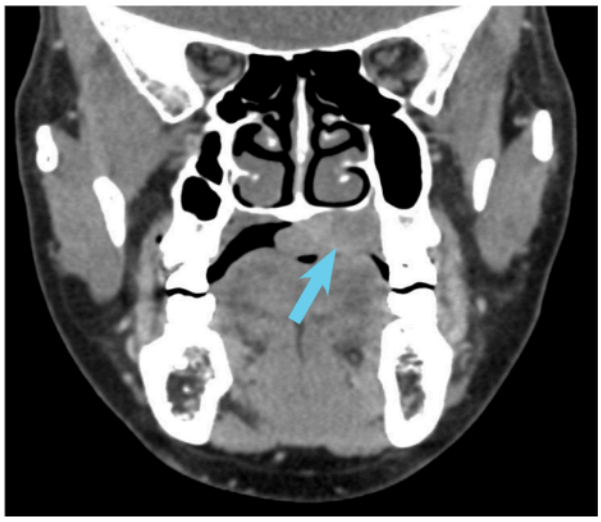

Figure 2. *CECT showing mild heterogeneous enhancement in palatal mass. Palatal scalloping is seen in the left half (shown by red arrow)*

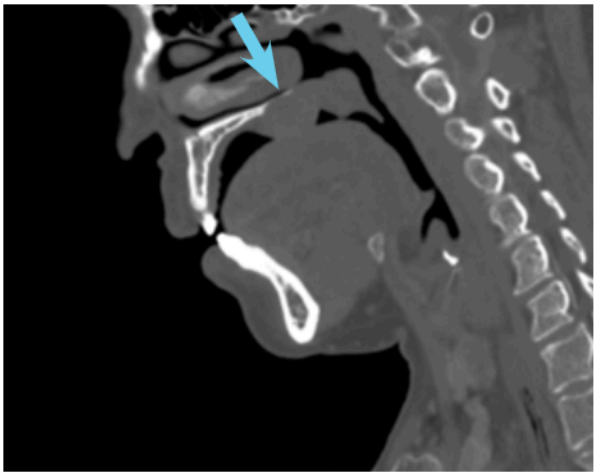

Figure 3. *Bone window of the CECT shows palatal scalloping and thinning (shown by white arrow)*

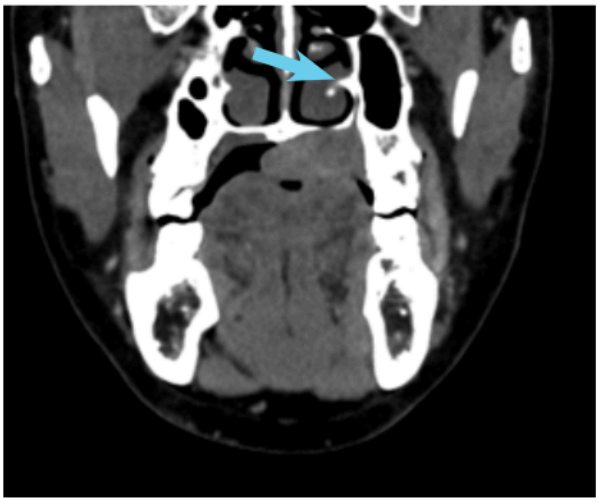

Figure 4. *Coronal CECT shows the mass reaching up to opening of greater palatal foramen (white arrow) without foraminal erosion and widening*

amount of myxoid stroma was seen. Findings were compatible with salivary gland neoplasm and differential diagnosis of pleomorphic adenoma was given A wide local excision of the mass was done. Histopathology of the mass showed capsulated tumor composed of ducts, nests and cords of epithelial cells separated by hyalinised fibrous stroma. Clear cell changes and mucinous metaplasia was seen. Findings were consistent with pleomorphic adenoma with clear cell change and mucinous metaplasia .

DISCUSSION

Pleomorphic adenoma is the most common tumor of major as well as minor salivary glands. In minor salivary gland , junction of hard and soft palate is the most commonly involved site followed by upper lip and oral mucosa.[2,6]Tumor with extension to surrounding tissue has high rate of recurrence. Though pleomorphic adenoma is the most common type of tumour occurring in palate, majority of minor salivary gland tumors are malignant.[3] 2-3% of pleomorphic adenoma may undergo malignant change as well.[1]Hence, CT or Magnetic Resonance Imaging (MRI)are recommended in larger tumors (> 3cm) when the possibility of malignancy is considered. Further imaging with three dimensional (3D) overview of lesion is also important to provide information about location, size and extension. CT is superior in providing details of bony erosion and perforation. Pleomorphic adenoma also has high risk of implantability. Residual cells left during excision can cause recurrence. [6]. So, it requires wide local excision and might require removal of periosteum as well as bone. Hence for proper surgical planning in places like palate where tumor occurs in close proximity to the bone, imaging with CT or MRI is necessary.[2]

In the study done by Kakimoto et.al in imaging features of pleomorphic adenomas,the palatal pleomorphic adenomas had smooth border, poor delineation with surrounding soft tissues in plain CT images with better contrast in post contrast images. Palatal pleomorphic adenomas showed relatively milder post contrast enhancement compared to parotid pleomorphic adenoma which were found to have lobulated border, sharp delineationfrom surrounding structures even in plain CT images and higher post contrast enhancement.[7]Similar finding was seen in our case with smooth border of tumor, poor delineation from surrounding soft tissue in plain CT image with greater contrast in post contrast images and milder post contrast enhancement by 20-25 HU.

Palatal abscess, odontogenic and non-odontogenic cysts, soft tissue tumors and salivary gland tumors can be considered as differential diagnoses in this case.[8] Palatal abscess presents with signs of inflammation and acute onset , hence could be ruled out clinically in this case . Lack of cystic content in FNAC as well as soft tissue attenuation and enhancement of lesion seen in CT scan ruled out possibility of odontogenic and non-odontogenic cysts. Soft tissue tumors such as fibroma, neurofibroma and neurilemmoma can be considered in the differential diagnoses for this case and can be differentiated only from histology. Differentiating palatal pleomorphic adenoma from malignant salivary gland tumors can be difficult in imaging as both may present with bony erosion and local invasion. Differentiation can be made with histology . However the slow growth over period of 2 years favours the diagnosis of benign lesion.[2]

CONCLUSION

Pleomorphic adenoma of palate is a relatively rare condition with can be locally aggressive. Proper radiological imaging to know the extent of tumor is essential prior to surgical planning. CT scan provides the details of adjacent bone involvement and can be used as a valuable tool in pre operative assessment and for proper surgical planning of tumor. Small proportion of long standing pleomorphic adenomas can also undergo malignant degeneration. Hence early diagnosis and treatment is essential for reducing the morbidity.

CONSENT

Written informed consent was taken from the patient for the case report publication.

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CONFLICT OF INTEREST

The author(s) declare that they do not have any conflicts of interest with respect to the research, authorship, and/or publication of this article.

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