CASE SERIES OPEN ACCESS

Pleomorphic adenoma of hard palate: A report of four cases

Sheela Chaudhari, Deepa Hatwal, Ashok, Vijay Suri

ABSTRACT

Introduction: Pleomorphic adenoma is the most common tumor of the salivary gland. The tumor most commonly arises in the parotid or submandibular salivary glands. Infrequently, it arises from minor salivary glands. Minor salivary gland tumors are mostly malignant. Case Report: We report four cases of pleomorphic adenoma of hard palate. All four cases range from 30–45 years. All were benign. Conclusion: Pleomorphic adenoma of minor salivary gland of hard palate is a rare benign tumor. Benign tumors at this site are more common then malignant ones. Complete evalutation of patients and complete removal of the tumor must be ensured so that tumor does not recur.

Keywords: Pleomorphic adenoma, Hard palate, Benign

Sheela Chaudhari[1], Deepa Hatwal[1], Ashok[2], Vijay Suri[3]
Affiliations: [1]Assistant Prof, Department of Pathology, Veer Chandra Singh Garhwali Govt. Medica. Science and Research Institute, Srinagar, Srikot – 246174, Garhwal, Uttarakhand, India; [2]Assistant Professor, Dept of ENT, Veer Chandra Singh Garhwali Govt. Medical Science and Research Institute Srinagar, Srikot–246174, Garhwal, Uttarakhand, India; [3]Professor & Head of the department, Department of Pathology, Veer Chandra Singh Garhwali Govt. Medical Science and Research Institute Srinagar, Srikot – 246174, Garhwal, Uttarakhand, India.
Corresponding Author: Sheela chaudhari, Assistant Prof, Department of Pathology. Veer Chandra Singh Garhwali Govt. Medical Science and Research Institute, Srinagar, Srikot–246174, Pauri Garhwal, Uttarakhand, India; Ph: 9412085721; Email: drcnsuk@yahoo.com

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INTRODUCTION

Salivary gland tumors accounts for 2–6% of all head and neck neoplasms. Among all salivary gland tumors, pleomorphic adenoma is the most common tumor accounting for 60% of salivary gland tumors. Pleomorphic adenoma most commonly arises in major salivary glands which include parotid or submandibular glands. Rarely, pleomorphic adenoma arises from minor salivary glands. Among the minor salivary glands, hard palate is the most common site. Tumor in minor salivary glands are more likely to be malignant than their counterpart in major salivary glands. In contradiction to this only benign pleomorphic adenoma of minor salivary glands were found in our institute in last one year which prompted us to write this case series.

CASE SERIES

All four patients visited in the ENT outpatient department of our institute from where they were sent to department of pathology for fine needle aspiration cytology (FNAC). The clinical, radiological and histopathological features of the patients are given in Table 1.

Clinical features: Out of the four patients, three were female and one was male. Age ranged from 30–45 years. All patients presented with the complaints of

painless swelling over the hard palate for last 6–10 months. None of the cases had associated ulceration or any discharge (Figure 1). General examination of all patients did not reveal any significant findings. No history of chronic alcoholism or tobacco was given by any patient.

In all cases on examination there was a firm, smooth, non-tender, well circumscribed lesion in the middle of the hard palate. Overlying mucosa was healthy. No significant lymphadenopathy was found in the neck region.

Cytological features: Fine needle aspiration cytology of the lesion was performed and the smears were stained with Giemsa stain. Smears revealed the presence of bimodal pattern of epithelial cells and spindle cells in a myxoid stroma. The epithelial cells were of uniform size with round to oval nuclei, moderate amount of cytoplasm and well defined cell boundaries (Figure 2). A diagnosis of pleomorphic adenoma was made. All patients had surgery for removal of mass and tissues were sent for histopathological examination.

Histopathological features: Histopathological examination revealed a well encapsulated tumor outside which small amount of normal salivary gland tissue was seen (Figure 3A–B). Tumor tissue consisted of gland like structures and sheets of epithelial cells (Figures 4, 5) with myxoid (Figure 6A–B) and chondroid areas (Figures 4, 7). No mitotic figures were found. These features were consistent with diagnosis of a pleomorphic adenoma.

Figure 1: Hard palate showing a well-circumscribed growth.

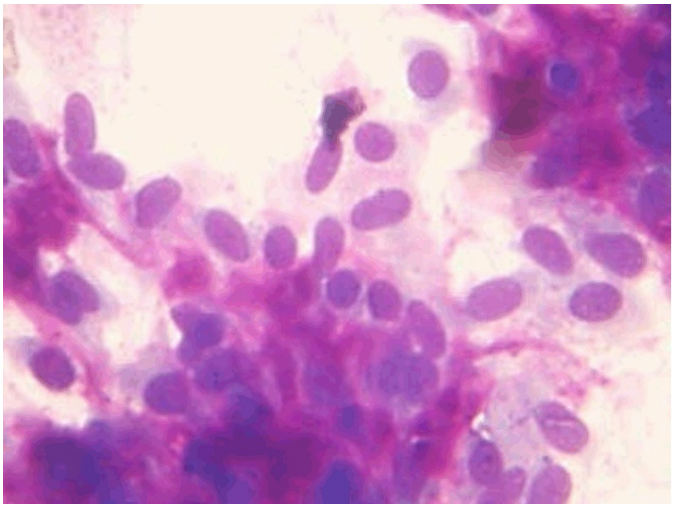

Figure 2: Photomicrograph of fine needle aspiration cytology showing clusters of epithelial cells with ovoid nuclei and blue cytoplasm overlying pink fibillary material (Giemsa, x40).

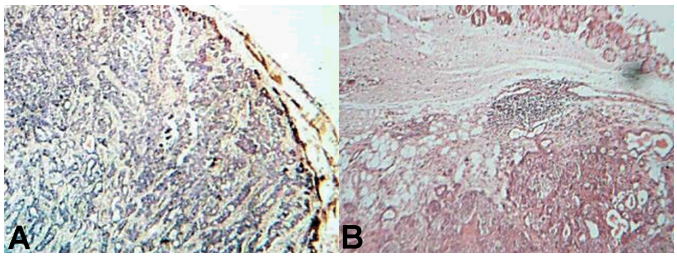

Figure 3: (A) Photomicrograph of histology section showing fibrous capsule (x50), (B) Photomicrograph of histology section showing fibrous capsule with tumor tissue and normal salivary gland tissue (H&E, x200).

Table 1: Clinical/radiological/pathological features for all patients.

	Clinical feature of swellings					Radiological feature MRI		Histopathological feature		
S.No.	Age (years)	Sex	Size (cms)	Pain	Consistency	Hard palate IND	Bone ERO/DIS	Epithelial pattern	Stroma	Cartilage
1.	32	F	1.3x1	+	Soft to firm	No	No	Gland, sheets	Fibromyxoid	+
2.	37	F	1.2x9	-	Firm	No	No	Glands sheets	Fibromyxoid	-
3.	39	M	1.4x1.0	+/-	Firm	No	No	Glands, sheets	Fibromyxoid	+
4.	42	F	1.5x1.0	-	Soft to firm	No	No	Glands, sheets	Fibromyxoid	+

Abbreviations: IND — Indentaton, ERO — Erosion, DIS — Distruction, F — Female, M — Male

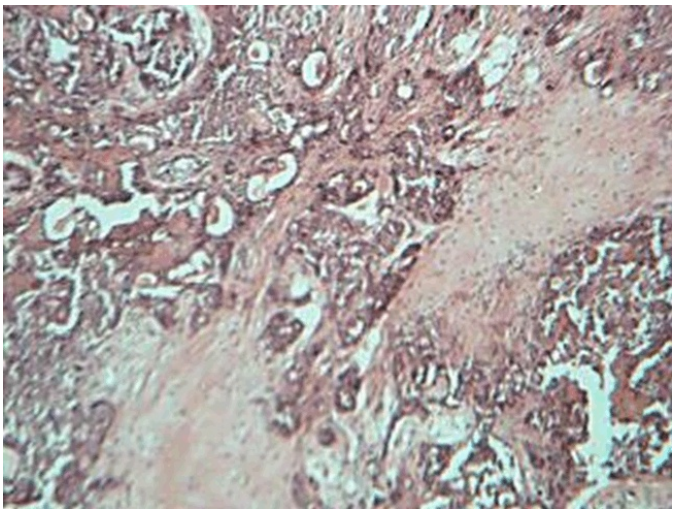

Figure 4: Photomicrograph of histology section showing tubular and glandular structures surrounded by myoepithelial cells and two chondromyxoid areas (H&E, x100).

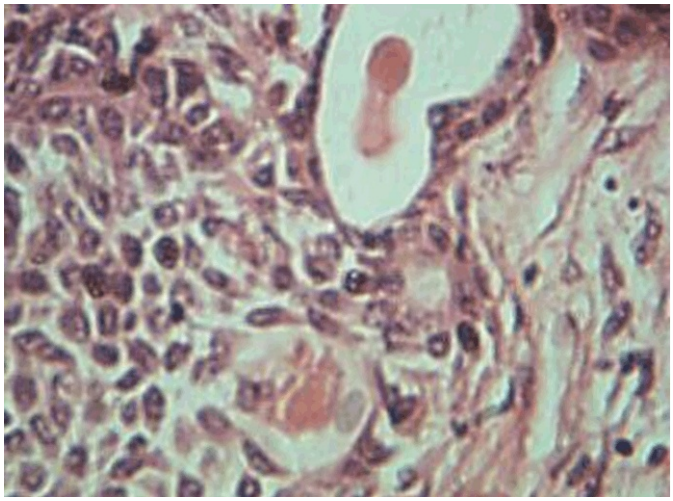

Figure 5: Photomicrograph of histology section showing epithelial cells in sheets and few gland like structures (H&E, x400).

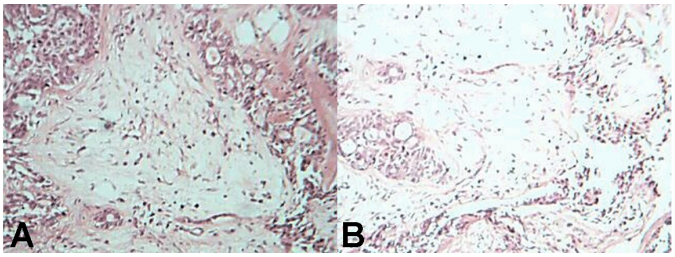

Figure 6: Photomicrograph of histology section showing epithelial glands and myxoid stroma, (H&#, A: x40, B: x100).

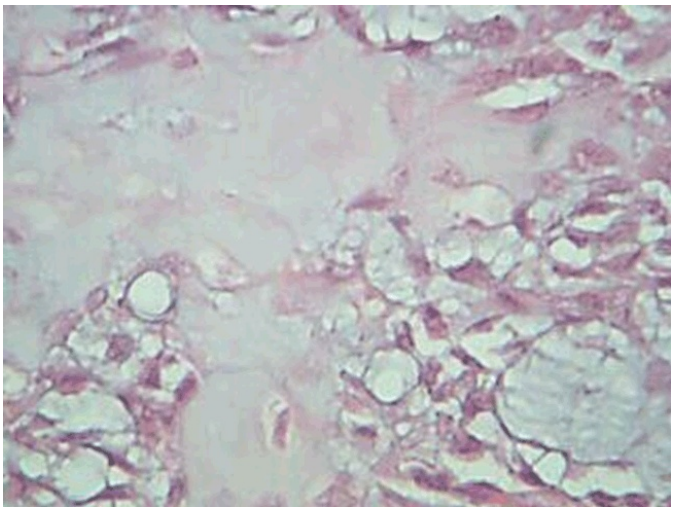

Figure 7: Photomicrograph showing chondroid change and epithelial like structures (H&E, x400).

DISCUSSION

Tumors of minor salivary glands constitute 2–4% of the head and neck tumors and about 10% of tumors of oral cavity [1]. About 22% selivary gland tumors arise in the minor salivary glands [2–4]. Most common tumor of minor salivary glands is a pleomorphic adenoma [5]. Most common site for minor salivary gland pleomorphic adenoma is the hard palate followed by lip, buccal mucosa, floor of mouth, tongue tonsils, pharynx, retro molar area and oral cavity [2, 4]. In our study of four cases we found all arising from the palate.

Intraoral pleomorphic adenoma appears as slow growing painless mass, usually in the fourth or fifth decade [6]. Study done by Moshy et al. showed slight predilection for older patients [5]. On the other hand, study done by Waldrom et al. revealed that tumor was more common in younger age group [7]. These findings suggest a possible variation in the presentation of intraoral minor salivary gland tumors in different population. In our study, the tumor was found in fourth and fifth decade.

Most studies have shown that minor salivary gland tumors are more common in females than male [8]. Male to female ratio is 1:1.8 to 1:2.4 [9, 10]. The tendency for female predominance is especially marked in benign tumors [9]. Our case series of four cases also underscores this fact.

Study done by Moshy et al. and Waldron et al. shows predominance of malignant neoplasm over benign ones [5, 7], while other studies show higher number of benign salivary gland tumors than malignant ones [8, 11]. This difference may be because these studies are from major referral centre which receives all the referred and complicated cases [8, 11]. Therefore, we can conclude that relative incidence of benign versus malignant tumors reflects the character of each institute. Likewise, in our study also we found all cases to be benign, as our institute is having many referral hospitals nearby.

Pleomorphic adenoma of the palate although being a benign tumor has a high recurrence rate. Lack of well defined fibrous capsule is a feature most commonly associated with a high recurrence rate [7].

The diagnosis of pleomorphic adenoma is suspected on the basis of history and physical examination and confirmed with cytology and histopathology. Comupted tomography scan and magnetic resonance imaging are helpful in providing information about the size and

extension of the tumor to the surrounding structures. This tumor usually does not recur after adequate surgical removal.

CONCLUSION

We presented four cases of pleomorphic adenoma from one of the rare site of minor salivary gland tumor. These tumors should be evaluated thoroughly for any extension into deeper tissues. During surgery complete removal must be ensured so that tumor does not recur.

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Author Contributions

Sheela Chaudhari – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Deepa Hatwal – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Ashok – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Vijay Suri – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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REFERENCES

1. Sánchez Legaza E, y cols. Adenoma pleomorfo del paladar duro. ORL-DIPS 2005;32:154–8.
2. Spiro SH. Salivary neoplasms: overview of a 35-year experience with 2,807 patients. Head Neck Surg 1986;8(3):177–84.
3. Waldron CA, el-Mofty SK, Gnepp DR. Tumours of the intra-oral salivary glands: A demographic and histologic study of 426 cases. Oral Surg Oral Med Oral Pathol 1988;66(3):323–3.
4. Cohen MA. Pleomorphic adenoma of the cheek. Int J Oral Maxillofac Surg 1986;15(6):777–9.
5. Moshy J, Mwakyoma H, Owibingire S. Intra-oral minor salivary glands neoplasms; The pattern and management. Professional Med J 2010 Sep;17(3):483–4.
6. Feinmesser R, Gay I. Pleomorphic adenoma of the hard palate: an invasive tumour? J Laryngol Otol 1983;97(12):1169–71.
7. Waldron CA, El-Mofty S, Gnepp DR. Tumours of intraoral minor salivary glands. A demographic and histologic study of 426 cases. Oral Surg Oral Med Oral Pathol 1988;66:323-3.
8. Loyola AM, de Araújo VC, de Sousa SO, de Araújo NS. Minor salivary gland tumours. Minor salivary gland tumours. A retrospective study of 164 cases in a Brazilian population. Eur J Cancer B Oral Oncol 1995;31B(3):197–201.
9. Kusama K, Iwanari S, Aisaki K, et al. Intraoral minor salivary gland tumours: a retrospective study of 129 cases. J Nihon Univ Sch Dent 1997;39(3):128–32.
10. Rivera-Bastidas H, Ocanto RA, Acevedo AM. Intraoral minor salivary gland tumours. A retrospective of 62 cases in Venezuelan population. J Oral Pathol Med 1996;25(1):1–4.
11. Chau MN, Radden BG. Intraoral salivary gland neoplasms: a respective study of 98 cases. J Oral Pathol 1986;15(6):339–42.