Pleomorphic Adenoma of the Palate

Subhas Chandra Debnath · A. K. Saikia ·
Antara Debnath

Received: 16 July 2009 / Accepted: 15 October 2010 / Published online: 20 January 2011
© Association of Oral and Maxillofacial Surgeons of India 2011

Abstract Pleomorphic adenoma is a benign tumor of the salivary glands that has elements of both epithelial and mesenchymal tissues. The tumor most commonly arises in the parotid or submandibular glands. Infrequently, it may arise from the minor salivary glands and present as an intraoral mass over the palate or lip. We report a patient with PA over the hard palate, which resembled common intraoral diseases like oral papilloma, squamous cell carcinoma and condyloma acuminatum.

Keywords Pleomorphic adenoma · Palate · Salivary gland

Introduction

PA or mixed tumor is a benign salivary gland tumor, presenting usually in the parotid or submandibular glands. This tumor contains elements of both epithelial and mesenchymal origin [1]. Infrequently, it may arise from the

minor salivary glands localized in the hard palate and other parts of oral mucosa [2]. Seventy percent of the tumors of the minor salivary glands are PA, and the most common intra oral site is the palate, followed by the upper lip and buccal mucosa. PA appears as a painless firm mass and, in most cases, does not cause ulceration of the overlying mucosa. Generally it is mobile, except when it occurs in the hard palate. Intra oral mixed tumors, especially those noted within the palate, lack a well-defined capsule. Lesions of the palate frequently involve periosteum or bone. Approximately 25% of benign mixed tumors undergo malignant transformation. Treatment for the PA is radical surgery. Inadequate resection leads to local recurrence [3]. Accessing Medline, with the key words pleomorphic adenoma, benign tumor of hard palate, pleomorphic adenoma of anterior palate we did not come across any published case report of pleomorphic adenoma of anterior hard palate. So, we found it interesting to report this unique case of a 22 years male patient with PA of the anterior hard palate and discuss the diagnostic and therapeutic features of this condition.

S. C. Debnath
Department of Oral and Maxillofacial Surgery, Regional
Dental College, Indrapur, Guwahati 781032, India

A. K. Saikia
Department of Oral Pathology, Regional Dental College,
Indrapur, Guwahati 781032, India

A. Debnath
North Guwahati PHC, Guwahati, India

S. C. Debnath (✉)
Sai Dental Clinic and Facio-Maxillary Surgery Centre,
Rajgarh Road, Bhangagarh, Opposite to Alcare Diagnostic
Centre, House no. 148, Guwahati 781005, Assam, India
e-mail: drsubhas@rediffmail.com

Case Report

A 22 year old male patient presented to our dental clinic with a chief complaint of painless swelling over the anterior palate for the past 8 months (Figs. 1, 2). There was no preceding history of trauma and no relevant past medical history. On examination there was a 2 × 3 cm sized, firm, non-tender, circumscribed lesion in the midline of the anterior hard palate. It was adherent to the underlying structures and surface was covered with slight erythematous mucosa. There was no regional lymphadenopathy and his general physical and systemic examination was normal.

Fig. 1 Preoperative frontal view

Fig. 2 Preoperative intraoral view

Clinical differential diagnoses of Kaposi's sarcoma, syphilitic gumma, and intraoral molluscum contagiosum condylomata acuminata, squamous cell carcinoma, oral papilloma, minor salivary gland tumor etc. were considered. OPG, Occlusal view of maxilla and PNS showed bony invasion and serology for syphilis was negative (Figs. 3, 4, 5). An incisional biopsy revealed characteristic features of PA (Fig. 6). Surgical technique involved raising a flap in the vestibular area of the premaxilla. The incision had extended from 16 to 25 region. The whole tumour mass was separated out with careful dissection on the labial side and on the palatal side tumour was marked keeping in consideration a cuff of normal palatal mucosa. Floor of the nasal mucosa was subperiosteally separated and retracted superiorly. The entire tumor was excised with surrounding

Fig. 3 Occlusal view of maxilla showing the lesion

Fig. 4 Orthopantomogram view

cuff of normal tissue and adequate margin of underlying bone along with 14, 13, 12, 11, 21, 22 (Figs. 7, 8). Bone bleeding was controlled with bone wax. Soft tissue haemostasis achieved with diathermy. The area was covered with paraffin gauge and a surgical stent. Specimen was sent for histopathology which was consistent with PA. Healing was uneventful. After 1 year of surgery patient was rehabilitated with removable partial denture. There has been no recurrence 2 years following surgery. (Figs. 9, 10).

Discussion

PA is the most common tumor of salivary glands [1]. The term pleomorphic describes the embryogenic origin of

Fig. 5 X-ray PNS view

Fig. 8 Excised mass

Fig. 6 Histopathologic view

Fig. 9 Intraoral site 2 years after surgery

Fig. 7 Intraoral site after excision of the tumour

Fig. 10 Postoperative frontal view after prosthetic rehabilitation

these tumors, which contains both epithelial and mesenchymal tissues [4]. It has been postulated that these tumors arise from intercalated and myoepithelial cells [1].

Intra oral PA appears as slowly growing, painless mass, usually in the fourth or fifth decade [2]. Pain, tenderness and ulceration are unusual. Although it is a benign tumor, it has a high recurrence rate and in a small number of cases, a benign PA may degenerate into a malignant tumor [1, 2]. PA of the oral cavity lack a well defined fibrous capsule, a feature associated with a high recurrence rate [2]. These tumors are also able to invade and erode adjacent bone, causing radiolucent mottling on the x-ray of the maxilla [5].

The diagnosis of PA is established on the basis of history, physical examination, cytology and histopathology. Histopathological sampling procedures include Fine Needle Aspiration Cytology (FNAC) and core needle biopsy (bigger needle comparing to FNA).

FNA operated in experienced hands, can determine whether the tumor is malignant in nature with 90% sensitivity [1, 2]. FNA can also distinguish primary salivary tumor from metastatic disease.

Core needle biopsy is more invasive but is more accurate compared to FNA with diagnostic accuracy greater than 97% [3]. Furthermore, core needle biopsy allows more accurate histological typing of the tumor. In this case incisional biopsy was taken as the lesion was on the anterior palate.

In terms of imaging studies, ultrasound is also frequently used to guide FNA or core needle biopsy [4]. CT is excellent for demonstrating bony invasion. MRI provides superior soft tissue delineation when compared to CT only. CT scan and MRI can provide information of the location, size and extension of tumor to surrounding superficial and deep structures [6]. In this case only plain x-rays were taken as the patient was not economically sound.

Histopathologically, PA is an epithelial tumour of complex morphology, possessing epithelial and myoepithelial elements arranged in a variety of patterns and embedded in a mucopolysaccharide stroma. Formation of the capsule is as a result of fibrosis of surrounding salivary parenchyma, which is compressed by the tumour and is referred to as false capsule [7].

Overall, the mainstay of the treatment for salivary gland tumor is surgical resection with a surrounding cuff of

normal tissue [1, 2]. The excision should include periosteum or bone if these are included [2]. If complete resection cannot be achieved, adjuvant radiotherapy should be added to improve local control [8, 9]. In this case, complete resection was possible so no radiotherapy was advocated.

These tumors usually do not recur after adequate surgical excision. Spiro reported a recurrence in 7% of 1342 patients with benign parotid neoplasms and 6% of patients with benign minor salivary gland tumours [10]. Most recurrences can be attributable to inadequate surgical techniques such as simple enucleation leaving behind microscopic pseudopod-like extensions [2].

Acknowledgment I wish to thank Dr Pascal X. Pinto, MDS, FDS, RCS, Professor, Department of Oral and Maxillofacial Surgery KIDS Belgaum for his support and guidance in preparing the manuscript.

Conflict of interest None.

References

1. Suen JY, Synderman NL (1993) Benign neoplasms of the salivary glands. In: Cummings CW, Fredrickson JM, Harker LA, Krause CJ, Schuller DE (eds) *Otolaryngology—head and neck surgery*, vol 2, 2nd edn. Mosby Year Book, St. Louis, pp 1029–1042
2. Feinmesser R, Gay I (1983) Pleomorphic adenoma of the hard palate: an invasive tumour? *J Laryngol Otol* 97:1169–1171
3. Clauser L, Mandrioli S, Dallera V, Sarti E, Galiè M, Cavazzini L (2004) Pleomorphic adenoma of the palate. *J Craniofac Surg* 15(6):1026–1029
4. Batsakis JG (1981) Neoplasms of the minor and ‘lesser’ major salivary glands. In: *Tumors of the head and neck*. The Williams and Wilkins, Baltimore, pp 38–47
5. Weber AL (1981) Pleomorphic adenoma of the hard palate. *Ann Otol Rhinol Laryngol* 90(2 Pt 1):192–194
6. Noghreya A, Gatot A, Mor E, Fliss DM (1995) Palatal pleomorphic adenoma in a child. *J Laryngol Otol* 109(4):343–345
7. Heeneman H (1987) Parapharyngeal space tumours. In: Kerr AG (ed) *Scott Brown’s otolaryngology*, 5th edn. Butterworth, Dracut, pp 380–391
8. Ganly I, Patel SG, Coleman M, Ghossein R, Carlson D, Shah JP (2006) Malignant minor salivary gland tumors of the larynx. *Arch Otolaryngol Head Neck Surg* 132(7):767–770
9. Terhaard CH, Lubsen H, Rasch CR, Levendag PC, Kaanders HH, Tjho-Heslinga RE, van Den Ende PL, Burlage F, Dutch Head and Neck Oncology Cooperative Group (2005) The role of radiotherapy in the treatment of malignant salivary gland tumors. *Int J Radiat Oncol Biol Phys* 61(1):103–111
10. Spiro RH (1986) Salivary neoplasms: overview of a 35 year experience with 2807 patients. *Head Neck Surg* 8(3):177–184