

PLEOMORPHIC ADENOMA OF THE HARD PALATE – A CLINICAL STUDY

Dentistry

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Abstract:

Introduction : Pleomorphic adenoma of minor salivary glands of the hard palate is a rare benign tumor.

Aims & Objectives : The purpose of this study was to collect data regarding age, size, symptoms, CT findings, recurrence tendency and treatment of Pleomorphic adenoma of hard palate.

Methods : A clinical study of 12 cases of pleomorphic adenoma of hard palate operated between January 2014 to March 2018 were included in the study. FNAC was done preoperatively in all cases and coronal CT scan was obtained to rule out bony erosions. All patients had a palatal splint fabricated before surgery to help in retention of dressing and prevent food lodgement into the surgical wound during the healing phase. Wide local excision was done in all cases.

Results : A total of 12 patients with pleomorphic adenoma of minor salivary gland of hard palate were included in the study. 8 patients were male while 4 patients were females. Most common complaint was a slow growing painless palatal mass. FNAC was done for all patients and was suggestive of Pleomorphic adenoma of hard palate. Wide local excision was done in all cases with a margin of about 1cm. Wounds were allowed to heal secondarily and no reconstruction was required. Palatal acrylic splint was given in all patients. All wounds healed uneventfully and there were no recurrences in our study.

Conclusion : Pleomorphic adenoma of the hard palate is a slow growing usually asymptomatic benign tumor. FNAC is a reliable and sensitive tool for screening of pleomorphic adenoma of hard palate. CT Scan is useful to rule out bony involvement. Wide local excision is the treatment of choice and recurrence is usually not seen.

Key Words: Pleomorphic adenoma, Minor salivary gland, Hard palate, Palatal defect.

Introduction

Pleomorphic adenoma of salivary glands is the most common tumor of minor and major salivary glands. Pleomorphic adenoma of the minor salivary glands is the most common minor salivary gland tumor. Palate is the most common site followed by upper lip and buccal mucosa.

Other intraoral sites include tongue, floor of the mouth, tonsil, pharynx, retromolar area, gingiva and nasal cavity.¹⁻³ It is also called “mixed tumor” which describes its pleomorphic appearance.

It mainly occurs in the adult population and there is a female predilection. It represents 66-90% of all salivary gland tumors in

children⁴. Pleomorphic adenomas are derived from a mixture of ductal and myoepithelial elements^{3,6}.

Pleomorphic adenomas are painless slow growing, well encapsulated tumor's and covered with normal mucosa. Ulcerations are sometimes observed. Wide local excision with removal of the periosteum and involved bone is the treatment of choice⁷.

Materials And Methods

The study comprised of 12 patients with pleomorphic adenoma of the hard palate operated between January 2014 and May 2018. All patients reported with a slow growing mass in the hard palate which was painless. After thorough clinical examination, FNAC was done for all patients. FNAC was sensitive for Pleomorphic adenoma in all cases. Coronal CT scans were done to know the extent of bony involvement and surgical planning. Routine blood investigations were done in all cases. A pre-operative impression was taken with alginate and a dental stone model fabricated. The stone model was used to create a palatal splint to aid in retention of dressing placed after surgical excision. (Figure) All patients underwent wide local excision under general anaesthesia.

Surgical Technique

Oro-tracheal or naso-tracheal intubation was done after induction of GA. Dingman's palatal retractor was placed for improved visualisation and access. (Figure 1). 2% lignocaine with 1: 100000 adrenaline was injected around the margins of the tumor. Dissection was started from the periphery with about 1cm margin from tumor borders. A microcautery tip (Colorado Tip) was used for dissection. Once the base of the tumor was reached, a sharp periosteal elevator was used to develop a subperiosteal plane and the tumor was lifted with elevators and dissected free from soft tissue using micro cautery. (Figure 2) The tumor capsule was freed from all around leaving it pedicled to the greater palatine artery which was found entering into the tumor mass in all cases. A curved hemostat was used to clamp the greater palatine artery and the tumor was delivered. The greater palatine artery is cauterised and the greater palatine foramen was gently packed with bone wax to prevent bleeding. The wound was irrigated and inspected for any bony perforation. The wound was then packed with

iodoform gauze and the acrylic palatal splint is placed and secured with wires.(Figure 4)

The splint helps in hemostasis and retention of dressing in the surgical wound. In one case with bony erosion, the tumor could be easily "cleaved" from the nasal mucosa. The wounds were left to heal by secondary intention. Iodoform gauze dressing was removed after 3 days and palatal splint repositioned to prevent food from entering the surgical wound and infecting it.

Antibiotics were given for 3 days. Patients were kept on regular follow up and recall to monitor healing and any recurrences. Excised specimen were sent for histopathological examination.

Results

Of the 12 patients included in the study, 8 were males and 4 were females. The age at the time of presentation ranged from 14 years to 52 years. A painless slowly enlarging swelling in the palate was the most common complaint at the time of presentation. Postero-lateral region of the hard and soft palate was the most common site. Soft palate involvement was seen in all cases. The right side was involved in 8 cases. The size of the tumor ranged from 3cm X 2cm to 7cm X 8cm in long standing cases. Mucosal ulceration was seen in 2 cases. In one case it was due to a previous incisional biopsy done elsewhere and in one case it was due to occlusal trauma. 3 patients had altered speech while one patient reported difficulty in swallowing. None of the patients had pain at the time of presentation. FNAC was done pre-operatively in all patients and was sensitive and reliable towards the diagnosis of pleomorphic adenoma. Coronal CT scans were done for all patients. Wide local excision was done in all cases and sufficient to completely excise the tumor. Greater palatine artery was clamped, cauterised and the foramen packed with bone wax in all our cases. No residual palatal defects were seen in our cases and all wounds healed by secondary healing. No reconstruction of the palate was needed in any of our cases. Acrylic palatal splint was given in all patients and were well tolerated. Palatal splints were retained till 3 weeks post operatively.

No recurrences of tumor were seen in our cases with follow up ranging from 4 years to 3 months. No case of malignant transformation was seen.

Discussion

Pleomorphic adenoma, also known as benign mixed tumor is the most common tumor of salivary glands. It mostly arises in the parotid or submandibular salivary glands. It may also arise in the minor salivary glands that are distributed throughout the oral cavity. The most frequent site of pleomorphic adenoma of the minor salivary glands is the hard and soft palate, followed by the upper lip and buccal mucosa. Pleomorphic Adenoma of minor salivary glands is most commonly seen in palate (42.63%)¹⁻³, followed by lip (10%)⁵. The unusual sites are larynx, epiglottis, sinuses and trachea. Pleomorphic Adenoma's have also been reported in tongue, soft palate, uvula and external auditory canal. The pleomorphic adenoma is a benign mixed tumor containing both epithelial and myoepithelial cells, which are organized in different morphological patterns and are delineated from the surrounding tissues by a fibrous capsule^{3,6}. This neoplasm is commonly seen in the fourth to sixth decades of life, but can occur at any age, and a slight female predilection is noted. Age of patients in our study ranged from 14 years to 52 years. Contrary to the literature we had a male predilection in our patient series. It is also the most commonly occurring neoplasm of the salivary glands in children and represents 66-90% of all salivary gland tumors⁴, although in our series we did not encounter paediatric patients. Pleomorphic adenomas do not show invasion of underlying bone, but pressure from the lesion may cause a "cupped-out" resorption pattern in the bone. This pressure effect on bone was seen in one patient's CT scan. A characteristic of this lesion is the presence of microscopic tumor projections on the outside of the capsule; failure to remove these projections along with the tumor results in recurrence of the lesion⁸.

The treatment of pleomorphic adenoma of the hard palate is surgical excision with a surrounding cuff of normal tissue. The excision should include periosteum or bone if these are included. These tumors usually do not recur after adequate surgical excision. Most recurrences can be attributable to inadequate surgical techniques such as simple enucleation leaving behind microscopic pseudopod-like extensions, or tumor spillage⁸. Malignant transformation, although rare, has been reported in around 5% cases⁹. Malignant transformation of PA was not seen in any case in our study.

Conclusion

Pleomorphic adenoma of the hard palate is a slow growing usually asymptomatic benign tumor. FNAC is a reliable and sensitive tool for screening of pleomorphic adenoma of hard palate. CT Scan is useful to rule out bony involvement. Wide local excision is the treatment of choice and recurrence is usually not seen.

Figures



Figure 1: Pleomorphic adenoma of hard palate



Figure 2: CT Scan showing pleomorphic adenoma with bone resorption



Figure 3: Exposure of the tumor



Figure 4: Tumor dissected with 1cm margins



Figure 5: Surgical defect

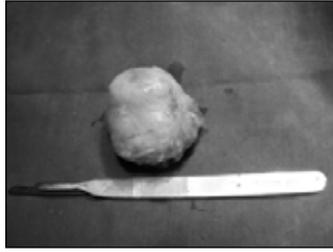


Figure 6: Excised tumor specimen



Figure 7: Excised tumor specimen with surface ulceration

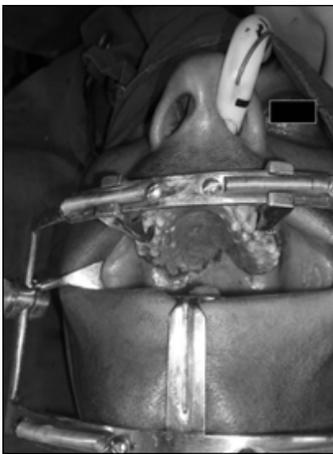


Figure 8: Acrylic palatal splint with iodoform dressing



Figure 9: Acrylic palatal splint on 3rd Post op day



Figure 10: Healing after 5 days



Figure 11: Healing after 1 month

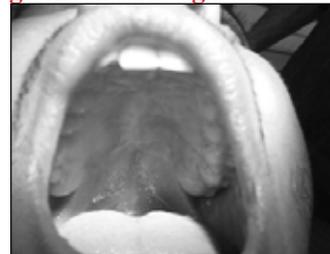


Figure 12: Healing after 6 months

**Table 1
(Demographic and Clinical data of the patients)**

Patient	Age	Sex	Size	Ulceration	Surgery
1	38	M	7cm x 8cm	No	Wide local excision
2	41	F	3.5cm x 3cm	No	Wide local excision
3	23	M	2.5cm x 3cm	No	Wide local excision
4	14	F	3cm x 4cm	No	Wide local excision
5	31	M	2cm x 3.5cm	No	Wide local excision
6	52	F	5cm x 6.5cm	Yes	Wide local excision
7	48	M	3cm x 4cm	No	Wide local excision
8	38	M	2.5cm x 3cm	No	Wide local excision
9	23	M	4cm x 6cm	Yes	Wide local excision
10	28	F	3.5cm x 4.5cm	No	Wide local excision
11	31	M	3cm x 5.5cm	No	Wide local excision
12	43	M	3.5cm x 4cm	No	Wide local excision

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