

Pleomorphic Adenoma of salivary gland our experience

¹Dr Ashish Rao, ²Dr Mereen Susan Roy, ³Dr Jyothi Swarup R

Department of Otorhinolaryngology , Sri Siddhartha Medical college and Hospital , Tumkur , Karnataka

Corresponding Author: Dr Ashish Rao, Department of Otorhinolaryngology , Sri Siddhartha Medical college and Hospital , Tumkur , Karnataka

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Abstract

Background: Pleomorphic adenoma is the most common salivary gland tumour. The most common gland involved is parotid gland. It is more common in females. It is uncommon in submandibular and sublingual glands.

Objectives: Although Pleomorphic adenoma is more common in parotid gland; it should be a part of differential diagnosis in submandibular swellings.

Materials And Methods: Cases which were proven as Pleomorphic adenoma by histopathology.

Conclusion: Improper removal can result in recurrence.

Introduction

Salivary gland neoplasms account for 3% of all head and neck neoplasms. The overall incidence of salivary gland neoplasms is 4/100000 per year with the gender ratio being 1:1. Parotid gland is most commonly affected followed by submandibular and minor salivary glands¹. Neoplasms are more common in parotid and minor salivary glands, whereas non-neoplastic lesions are more common in submandibular salivary gland. Malignant neoplasms are more common in minor salivary glands, whereas benign neoplasms are more common in major salivary glands².

The most common benign salivary gland tumour is Pleomorphic adenoma. It is more common in parotid (57%) followed by minor (20%) and submandibular

salivary glands (18%). The most frequent tumours of submandibular salivary gland are Pleomorphic adenoma (36%), followed by Adenoid cystic carcinoma (25%), Mucoepidermoid carcinoma(12%) and malignant mixed tumours(10%)¹.

In this study we present a series of pleomorphic adenomas who presented to our institution over a period of one year.

Materials and Methods

This was an observational study carried out in the department of otorhinolaryngology, at our institute from February 2014 to June 2015. A total of 6 patients of the 3432 out patients were included. In the same period 20 cases of pleomorphic adenoma were diagnosed in various departments of our institution. Patients aged more than 16 years who presented with longstanding swelling in the head and neck region, which were proven as pleomorphic adenoma by histopathological examination were included in the study.

The selected patients were subjected to detailed history followed by complete clinical examination. All patients underwent either ultrasonography or computed tomography over the region of the swelling. They also underwent FNAC of the swelling and the diagnosis of pleomorphic adenoma was made. Patients later underwent surgical excision and the diagnosis was confirmed by histopathology.

Procedures

All patients underwent surgical excision under general anaesthesia. Patients with pleomorphic adenoma in the parotid gland superficial parotidectomy through standard parotidectomy approach. In case of submandibular gland standard submandibular approach was followed.

Observation

In our study the age of patients varied between 20 years and 60 years. They were no patients who were above 61 years.

Age group	No of cases	Percentage
21-30	Nil	0%
31-40	2	33%
41-50	2	33%
51-60	2	33%

In this series three groups had 2 patients each. There was no patient belonging to the age group of 21-30 years.

The age group of out patients during that period is given in the following.

Age group	No. of out patients	Percentage	No of cases	Percentage
21-30	549	16%	Nil	0%
31-40	755	22%	2	0.26%
41-50	961	28%	2	0.21%
51-60	412	12%	2	0.48%
61<	755	22%	Nil	0%

The chi-square test done shows the difference between the age-group prevalence is not significant.

Sex distribution

In this series there were 5 female patients and one male patient.

Sex	No of cases	Percentage
Males	1	16.7%
Females	5	83.3%

Sex distribution among our out patients is described in the given table.

Sex	No of out patients	Percentage	No of cases	Percentage
Males	1842	53.7%	1	0.054%
Females	1590	46.3%	5	0.31

The Odds ratio is 5.5. That is females have 5.5 times more chances of getting pleomorphic adenoma as compared to males. And the chi-square is significant at $p < 0.0001$.

Site distribution

In this series there were five patients with pleomorphic adenoma in the parotid gland, and one in the submandibular salivary gland.

Site	No of cases	Percentage
Parotid	5	83.3%
Submandibular	1	16.7%

Discussion

Salivary gland tumours are complex neoplasms which account for 3% of all head and neck tumours¹. Benign/malignant ratio among major salivary glands is 2.1:1.

Parotid gland is the most commonly affected among major salivary glands. Minor salivary glands are involved in 21.5% of the cases. Palate is the most common site affected³. Most common benign tumour is Pleomorphic adenoma followed by Warthin’s tumour⁴. Most common malignant tumour is Mucoepidermoid carcinoma followed by adenoid cystic carcinoma⁵. Pleomorphic adenoma is the most common neoplasm of salivary glands. It most commonly occurs in the fifth or sixth decade. It has female preponderance. It typically arises as a slow growing, firm mass that is slightly compressible. Almost all are asymptomatic and they are usually brought to the attention of the physician when routine physical examination is performed or when the patient feels or sees a lump. Imaging studies alone can provide a presumptive diagnosis. CT scan findings are tumours which are smooth and have well defined margins.

The attenuation values of the mass are usually homogeneous and higher than that of the surrounding gland. They typically show delayed contrast enhancement. When very large, they may develop a heterogeneous appearance with areas of necrosis, haemorrhage, cysts and calcification. They are typically well demarcated from the surrounding tissue by a fibrous capsule, which varies both in thickness and completeness. This capsule is a result of fibrosis of surrounding salivary parenchyma, which is compressed by the tumour and is referred to as 'false capsule'. If the fibrous capsule can be completely removed these tumours can be cured with surgery. The tumour also has small protrusions (pseudopodia) that extend beyond the central mass, caused by variability in the growth rates of the various cell types. This factor contributes to recurrence rates as high as 50%, depending on the type of surgical intervention. Microscopically, it is characterized by a myriad of morphological diversity. Epithelial cells are arranged in sheets and islands showing typical ductal structures and various epithelial and myoepithelial characteristics as spindle, clear, squamous, basaloid, plasmacytoid, oncocytic and sebaceous. The stroma characteristically is mixed with fibrous, chondroid, myxoid or hyaline aspects. The incidence of malignant transformation in Pleomorphic adenoma, ranges from 1.9% to 23.3%⁶. Ramirez et al conducted a 10 year retrospective review of submandibular salivary gland tumours. They studied 22 cases of submandibular salivary gland neoplasms, out of which 19 cases were benign and 18 cases were pleomorphic adenoma. They concluded that Pleomorphic adenoma was the most common submandibular salivary gland tumour¹. Although it is the most common tumour of the submandibular salivary gland 22 cases in 10 year period suggests that it is uncommon compared to other salivary glands. In our institution we

have reported the first case in this study. Lawal et al in their retrospective review of 413 cases of salivary gland neoplasms found only 49 neoplasms in submandibular salivary gland. Although pleomorphic adenoma was found to be the most common submandibular salivary gland neoplasm, it shows that neoplasms in submandibular glands are relatively uncommon². The same message is conveyed through our study. Sirohi et al reported more common occurrence of Pleomorphic adenoma in submandibular salivary gland than other tumours. But neoplasms in submandibular salivary glands were relatively uncommon⁵. Gupta et al reported a Giant Pleomorphic adenoma of submandibular salivary gland which was 2.24 kg in weight. They concluded that it is very rare to find such an eoplasm in submandibular salivary gland⁶. Rai et al have reported an occurrence of Pleomorphic adenoma of submandibular salivary gland. They also concluded that occurrence of pleomorphic adenoma in the submandibular salivary gland was uncommon⁷.

Conclusion

Majority of submandibular salivary gland swellings are either inflammatory or lithiasis. In such cases there will be presence of inflammatory signs like tenderness, local rise of temperature and redness over the skin. Absence of these signs points the diagnosis towards neoplasms. Pleomorphic adenomas are more common in Parotid gland. Even though they are rare in submandibular gland, they should be considered as differential diagnosis in case of submandibular mass lesions. Pleomorphic adenomas are treated by complete surgical excision. Improper removal can result in recurrences.

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