International Journal of Otorhinolaryngology and Head and Neck Surgery
Pawar RT et al. Int J Otorhinolaryngol Head Neck Surg. 2019 Nov;5(6):1615-1618
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

Original Research Article

DOI: http://dx.doi.org/10.18203/issn.2454-5929.ijohns20194936

Clinical profile and management of pleomorphic adenoma of head neck: our experience

Rameshwar T. Pawar, Ashok Z. Nitnaware, Seema V. Patel*, Tanvi S. Rekhade

Department of ENT, Government Medical College and Hospital, Nagpur, Maharashtra, India

Received: 18 July 2019
Revised: 21 September 2019
Accepted: 30 September 2019

***Correspondence:**
Dr. Seema V. Patel,
E-mail: drpatelseema@gmail.com

ABSTRACT

Background: Pleomorphic adenoma constitutes one of the common salivary gland tumors. Our aim is to study the clinical presentation of pleomorphic adenoma, preoperative and postoperative histopathological findings and management of tumors.
Methods: A retrospective study of 43 patients was conducted at department of ENT, Government Medical College and Hospital, Nagpur between January 2017 to February 2019. Data was collected and analysed.
Results: Maximum patients were of age group 40-60 years with male preponderance. Parotid being most common gland involved, 35 cases of all 43 were post-operatively confirmed to be pleomorphic adenoma.
Conclusions: Pleomorphic adenoma is most commonly diagnosed in age group 40-60 years. Surgical excision is treatment of choice. Long term follow-up of the cases is warranted owing to risk of late recurrences.

Keywords: Pleomorphic adenoma, Head neck, Surgical excision, Squamous cell carcinoma, Mucoepidermoid carcinoma, Warthin's tumor, Serous cystadenocarcinoma

INTRODUCTION

Pleomorphic adenoma (PA) is also known as benign mixed tumors (BMTs), because of its dual origin from epithelial and myoepithelial elements. PA constitutes 65% of all salivary gland tumors .They are the most common type of tumors of the minor salivary glands. Of the major salivary glands parotid is most commonly involved.[1-3]

Although these are tumors of salivary glands, they also involve other areas of head and neck like auditory canal, eyelids etc. Occasionally involvement of lacrimal gland is also seen.[4]

PA commonly arise in 4-6th decade with female predilection. Prognosis of the tumor is generally good with risk of malignant transformation <5% if detected early.[5]

The etiology of the tumor is unknown however it may occur secondary to radiation exposure. Role of simian virus (SMV40) has also been proposed.[6]

Surgical management with wide excision and negative margins is mode of treatment for pleomorphic adenoma.[7] Inadequate surgical margins, result in a recurrence rate of about 2-44%.[8]

Though pleomorphic adenoma of salivary gland is a common tumor, information regarding its epidemiology, clinical features, management has remained uncertain due to lack of adequate documentation.

In this study we aim to gain more information regarding the clinical presentation of pleomorphic adenomas at different sites in head neck region and to study the management of the tumors as well as the pre-operative and postoperative histopathological findings.

METHODS

This is a retrospective study conducted at tertiary hospital, Government Medical College and Hospital, Nagpur.

Patients with cytological findings sample of pleomorphic adenoma were included in study and were subjected to surgical management. Patients unfit or not willing for surgery and those who failed to follow up were excluded.

Data of 43 patients of pleomorphic adenoma in head neck region who were admitted and operated from January 2017 to February 2019 at Department of ENT and Head Neck surgery, Government Medical College and Hospital, Nagpur i.e., detailed history and examination findings were recorded. Cytological and radiological examination findings were noted. Patients subjected to appropriate surgical management. Further patients were managed according to postoperative histopathology findings. Data obtained was then arranged in tabulated form, compared and statistical analysis was done.

RESULTS

Present study comprises of 43 cases. Out of them 22 were male and 21 were female (Figure 1) with male:female ratio of 1:04. Age range was 9-75 yrs, mean age being 38.37 yrs. Maximum patients were 18 (41.86%) from age group 40-60 yrs. This was followed by 16 (37.20%) patients from age group 20-40 yrs, 6 (13.95%) from below 20 yrs and 3 (6.98%) above 60 yrs (Figure 2).

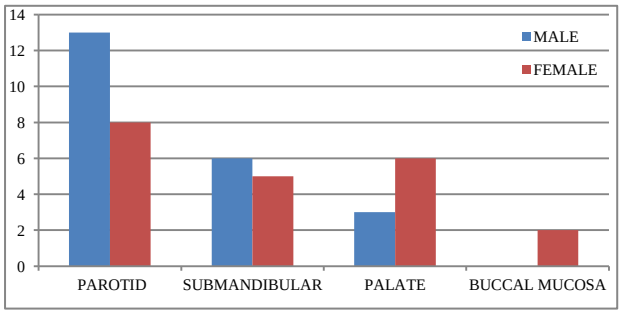

Figure 1: Gender wise distribution of tumor.

Most common site of tumor was parotid 21 (48.83%) followed by submandibular gland-11 (25.58%), palate-9 (20.93%), 2 (4.65%) cases of buccal mucosa (Figure 3).

Of all post-operative histopathology reports 8 (18.60%) reported a diagnosis different from the pre-operative reports. They were mucoepidermoid carcinoma (2), serous cystadenocarcinoma (3) and squamous cell carcinoma (1) and warthin's tumor (1) (Figure 4).

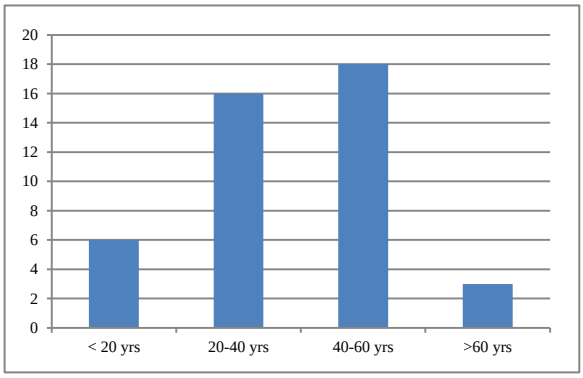

Figure 2: Age wise distribution.

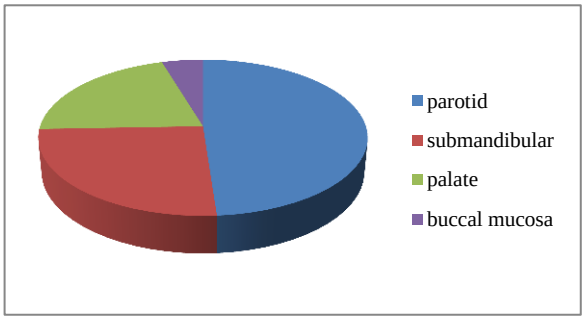

Figure 3: Site of tumor.

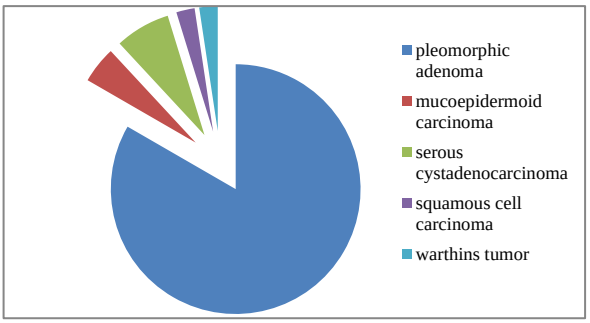

Figure 4: Post-operative histopathology reports.

Figure 5: Pleomorphic adenoma palate.

Figure 6: Operated case of pleomorphic adenoma left parotid.

DISCUSSION

PA is most common tumor comprising 2/3rd of all salivary gland tumors. It mainly involves parotid gland (85%), minor salivary glands (10%) and submandibular glands (5%). They mostly present as painless swelling of parotid, submandibular glands or in other regions of minor salivary glands – palate, lip etc.

Pleomorphic adenoma of parotid gland

There were total 21 patients out of which 13 were male and 8 females. Most patients presented with well-defined firm swelling over parotid region. Out of them 18 patients underwent superficial parotidectomy and 3 underwent total parotidectomy as radiological findings in them were suggestive of involvement of both superficial and deep lobes. Post-operative histopathology report in 16 cases (76.19 %) was of pleomorphic adenoma, 2 (9.52%) were of mucoepidermoid carcinoma, 1 (4.76%) serous cystadenosarcoma, 1 (4.76%) warthin's tumor. Out of the 3 total parotidectomy, 1 patient (27 yrs) had a previous history of having undergone radiotherapy superficial parotidectomy 1 year ago followed by recurrence of firm swelling over radiootherapy parotid region . This patient underwent wide local excision of tumor with excision of remnant parotid gland (total parotidectomy) and was postoperatively confirmed to be pleomorphic adenoma recurrence. The patients with post-operative histopathology reports of mucoepidermoid carcinoma and serous cystadenosarcoma were subjected to radiotherapy. The patient with post-operative report of warthin's tumor is under follow up.

Valstar et al in his study on salivary gland tumors found that, recurrence was more common in parotid pleomorphic adenoma.[9] Risk factors were found to be positive or uncertain margins, young age and primary tumor location.

Malignant transformation after PA recurrence is a small risk.[9] Hence excision with follow up is warranted.

According to the study conducted by Aro et al, the role of radiotherapy in the management of recurrent PA needs consideration as the risk for malignant transformation is significant.[10]

PA of the parotid gland is treated either with superficial (Patey's operation) or total parotidectomy with care to preserve the facial nerve .[11]

Pleomorphic adenoma of submandibular gland

There were total 11 patients out of which 6 were male and 5 females. Patients mostly presented with a well-defined swelling over submandibular region. Submandibular gland excision was done. Post-operative all reports were of pleomorphic adenoma.

The tumors of the submandibular glands are treated with simple excision procedure keeping in mind preservation of the mandibular branch of the trigeminal nerve, the hypoglossal nerve, and the lingual nerve.[11]

Pleomorphic adenoma of palate

There were total 9 patients. Out of which 3 were male 6 females. Of them 8 patients presented with a well-defined firm to hard swelling over palate. All the patients underwent wide local excision with adequate margins. Post-operative 6 histopathology reports confirmed pleomorphic adenoma, 1 squamous cell carcinoma and 1 serous cystadenosarcoma. The later were subjected to radiotherapy.

However 1 patient, 33/F presented with recurrent episodes of sore throat >6 /yr since 2 yrs. On examination she had unilateral radiotherapy tonsillar swelling. Patient underwent radiotherapy tonsillectomy while post-operative histopathology report was of pleomorphic adenoma.

Pleomorphic adenoma of buccal mucosa

There were 2 cases that were documented. A 16 year female presented with soft well defined firm swelling with smooth surface over buccal mucosa. Wide local excision was done and postoperative diagnosis of pleomorphic adenoma was achieved on the basis of histopathology report. Another 22 year female presented with soft to firm well defined mass attatched to radiotherapy upper lip. Patient under went wide local excision and was postoperatively confirmed to be pleomorphic adenoma on the basis of histopathology report.

Minor salivary gland tumors are subjected to a wide local excision with 5 mm margins. These tumors do not invade bone, hence a bone resection is not required.[11]

Intraoral minor salivary gland tumors are relatively uncommon with pleomorphic adenoma being most common benign tumor.[12]

Lee et al reported that the age range of salivary gland tumors was 1–76. Only 2–5% of them occur in patients under the age of 16.[13] In another study by Wu et al the most common age of presentation was reported to be 40-60 yrs . There is more female predominance.[14]

CONCLUSION

Pleomorphic adenoma of salivary glands contributes to a major burden of salivary gland tumors. It is most commonly diagnosed at an age of 40–60 yrs with female predilection. It is diagnosed on the basis of cytological findings. Radiological assessment needs to be done to know the extent of disease. Surgical excision is the treatment of choice. The patients with pre-operative report of pleomorphic adenoma may show changes of malignancy in post-operative histopathology rendering it to be important in follow up. PA tends to recur over a period of 10-15 yrs. Hence, a long term follow up is warranted

ACKNOWLEDGEMENTS

The authors would like to thank the Dean, Government Medical College and Hospital, Nagpur, Maharashtra, India.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Pawar RT, Nitnaware AZ, Patel SV, Rekhade TS. Clinical profile and management of pleomorphic adenoma of head neck: our experience. Int J Otorhinolaryngol Head Neck Surg 2019;5:1615-8.