

PLEOMORPHIC ADENOMA OF PAROTID GLAND: A CASE REPORT

Mahesh Melkundi¹ Prashant Babaji² Rashmi Saikhedkar³ Manjunath B Chaluvaiiah⁴

¹ Senior Lecturer, Department of Oral Pathology, College of Dental Sciences and Hospital, F-12, Jhoomer Ghat, Indore, India. ² Reader, Department of Pedodontics, Sharad Pawar Dental College, Wardha, Maharashtra, India. ³ Professor, Department of Oral Surgery, College of Dental Sciences and Hospital, F-12, Jhoomer Ghat, Indore, India. ⁴ Professor, Department Of Preventive & Public Health Dentistry, Jaipur Dental College, Jaipur, Rajasthan, India.

Corresponding Author: Mahesh Melkundi, Senior Lecturer, Department of Oral Pathology, College of Dental Sciences and Hospital, F-12, Jhoomer Ghat, Indore, India, E-mail: maheshop@gmail.com, Ph: 09755603793

Abstract

Salivary gland tumours are rare, comprising less than 3 % of all neoplasia of head and neck region. Pleomorphic adenoma is the most common salivary gland tumour, accounts for 60- 80% of benign tumours of salivary glands. Usually they are found as solitary unilateral, firm and mobile, painless, slow growing mass. Management involves surgical resection by superficial or total parotidectomy.

Key words: Benign mixed tumor, parotid gland, pleomorphic adenoma, parotidectomy.

Introduction

Salivary gland tumours are rare, comprising less than 3 % of all neoplasia of head and neck region. Pleomorphic adenoma is the most common salivary gland tumour, accounts for about 60 % to 80 % of the benign tumours of the salivary glands and for 60 % to 70 % of all the parotid tumours. This tumour is also known as a benign mixed tumour. The incidence of parotid tumour is about 2.4 in 100000/ year. Right side involvement is more common than left side and more common in female than male (2:1)^{1,2,3}. Its occurrence is rare in children and found more commonly between fifth and sixth decades of life^{1,2,4}.

Pleomorphic adenoma is less commonly seen in the submandibular salivary gland (10%) and is seldom encountered in the sublingual gland (1%). In minor salivary glands (5-10%), the palate and the lip are the most common sites. Other sites of minor salivary gland involvement include the nose, the paranasal sinuses, and the larynx. Rare or unusual sites of occurrence include ectopic salivary gland tissues (eg: mandible, neck lymph nodes, axilla). Multiple tumours are unusual (1:40,000), but metachronous, synchronous and lipomatous tumours do occur^{1,5,6,7}. Synchronous occurrence of pleomorphic adenoma and Warthin's tumour has been reported^{6,8}.

The exact etiology is unknown, however, it has been noted that the incidence increases 15-20 years after exposure to radiation. One study suggests that the simian virus (SV40) may play an etiologic role in the development of pleomorphic adenoma⁹.

Case Report

A 25 year old male patient was reported with chief complaint of slow growing painless mass on the left side of his face, below the left side of ear (Fig:1) . Medical history was non contributory. Clinical examination revealed a 3-4 cm mass that seemed to be in the lower pole of the right parotid gland (Fig: 1). It was a well-defined mass, with a firm and non tender consistency that was not attached to the skin. There was no symptom suggestive of facial nerve involvement. Fine-needle aspiration showed no malignant cells. The lesion was surgically removed by total parotidectomy (Fig: 2,3). Excised lesion measured 4x 3 cm (Fig: 3). Histological analysis of excised lesion showed typical features of a pleomorphic adenoma showing islands and strands of epithelium in a myxoid stroma (Fig: 4 and 5) After clinical and histological evaluation, it was confirmed as pleomorphic adenoma of left side of parotid gland. No complications were observed after four months of follow up.



Fig-1: Image of left lateral view of face showing lesion of pleomorphic adenoma

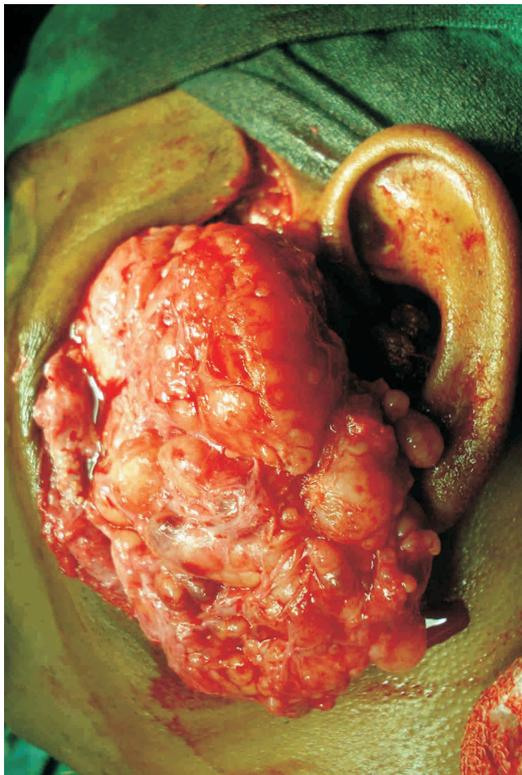


Fig-2: Image showing pleomorphic adenoma after surgical exposure

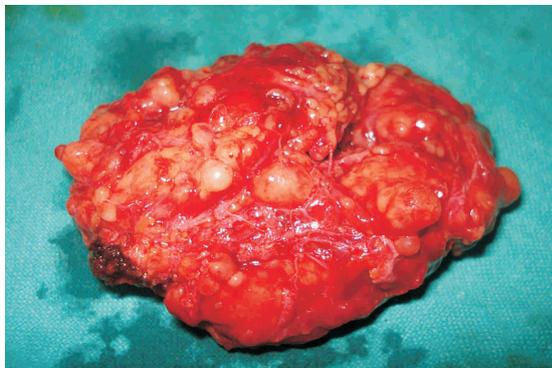


Fig-3: Excised lesion of pleomorphic adenoma measuring 4x3 cm

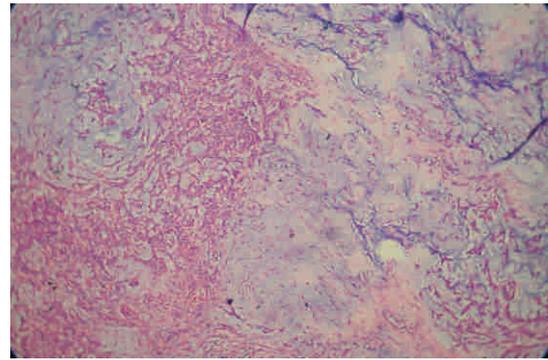


Fig-4: H and E stained section in lower magnification showing epithelial cells in sheets and cords with chondromyxoid stroma

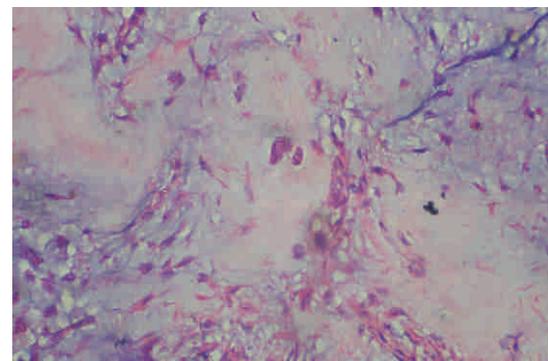


Fig-5: H and E stained section in higher magnification showing typical features of a pleomorphic adenoma includes islands and strands of epithelium in a myxoid stroma

Discussion

Pleomorphic adenoma is the most common salivary gland tumour with parotid gland being the most common affected site. The typical parotid tumour found below the lobule of the ear and overlying the angle of the mandible. On gross finding, pleomorphic adenoma is a single, firm, mobile, well-circumscribed mass. The tumour may be whitish-tan to gray to bluish in colour. It may vary from a few millimetres to few centimetres or even to giant size. They are irregularly shaped and have a bosselated surface^{1,2}.

Usually they are found as solitary, unilateral, firm and mobile, slow growing asymptomatic mass^{1,2}. Symptoms and signs depend on the location. When the tumour occurs in the parotid gland, signs of facial nerve weakness are seldom encountered; in large neglected tumours, facial nerve weakness is

likely to arise as the result of malignant change. A rapid enlargement of a tumour nodule should raise concern about the development of malignant change. The incidence of malignant transformation ranges from 1.9 - 23.3%². Pleomorphic adenoma in the deep lobe of the parotid gland may present as an oral retrotonsillar mass/parapharyngeal space tumour⁵.

The term "Pleomorphic" refers to both histogenesis and histology of the tumour⁷. Pleomorphic adenoma is a benign salivary gland tumor with wide cytomorphic and architectural diversity. The tumour has 3 components: an epithelial cell component; a myoepithelial cell component; and a stromal (mesenchymal) component. The identification of these 3 components, which may vary quantitatively from one tumour to another, is essential to the recognition of pleomorphic adenoma. Fine-needle aspiration biopsy can be done for diagnosis of pleomorphic adenoma^{3,10}. Histologically pleomorphic adenoma presents with variable pattern of epithelium in a loosely fibrous stroma, which may be myxoid, chondroid, or mucoid. The epithelium is usually arranged in sheets or strands and ductal structure, often bilayered, are atypical. The myoepithelial cells are often polygonal with a pale eosinophilic cytoplasm. These cells are so typical as to almost diagnostic and their presence in small biopsies is helpful. In most instances, the diagnosis of pleomorphic adenoma is a straightforward microscopic identification. However, immunohistochemistry may be supportive and helpful in delineating the different cell types and components, as well as in differentiating pleomorphic adenoma from other tumors. The following immunohistochemical stains have proven to be helpful; Keratin - Positive in luminal epithelial and abluminal basal/myoepithelial cells, Cam 5.2 and EMA - Positive in luminal epithelial cells, P-63 - Positive in abluminal basal and myoepithelial cells, Calponin, maspin, S-100 - Positive in myoepithelial cells¹¹. Ultrasonography, CT and MRI can be advised for confirmation and in differentiating solid parotid masses from cystic ones¹⁰.

Treatment of pleomorphic adenoma is surgical resection. Surgical resection of the tumour can be done by enucleation, superficial or total parotidectomy. Recurrence is least in total parotidectomy compared to enucleation and superficial parotidectomy⁴. There was up to 43% of recurrence after surgical resection as pleomorphic adenoma don't have true capsule. They have pseudo capsule extending into surrounding normal gland tissue. During enucleation, as the main tumour mass is being resected, pseudopodes are left in the gland giving rise to multiple nodular recurrences or risk of malignant changes^{5,6}. Following parotid gland surgery, many of the difficulties and complications are due to relationship of the facial nerve to the parotid gland. Most commonly there is chance of transient facial paresis, Frey's syndrome. Frey's syndrome was more prevalent after total parotidectomy compared to superficial one^{4,10}. In the present case, four months follow up after total parotidectomy no complications or recurrence are observed.

Conclusion

Pleomorphic adenomas are benign tumours and most commonly involves parotid gland. Proper diagnosis and careful surgical resection with preservation of facial nerve, helps in better prognosis with least chances of recurrence.

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