

CASE REPORT

Mucoepidermoid Carcinoma of the Parotid Gland: A Case Report

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ABSTRACT

Among head and neck malignancies salivary gland malignancies constitutes less than 5%. This case presents a malignant neoplasm of parotid gland. A 64 year old male patient came with a painless, hard, mobile swelling present over the left side pre-auricular region was presented. Fine needle aspiration cytology showed benign and premalignant features. Magnetic resonance imaging and biopsy of the tumour showed PT2 PNO Mucoepidermoid carcinoma – Parotid, low grade, margins focally involved by the tumour. Superficial parotidectomy was done without injuring the facial nerve. Post-operative period was uneventful. Facial nerve functions were intact. Histopathology report confirmed malignancy of the parotid gland. Most of the parotid swellings are benign but it also includes some of the malignant tumours. Early detection of such tumours through multidisciplinary team approach and good clinical history will give favourable disease outcomes.

Keywords: Facial Nerve, Malignant Carcinoma, Superficial Parotidectomy.

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INTRODUCTION

Among the total cases of parotid tumors only 15.5% are malignant.¹ Malignant parotid gland arises from the cells which are capable to differentiate to different cells of excretory ducts.² Malignant carcinoma of parotid gland constitutes 30% of all malignant tumours.³ Among the mucoepidermoid is the commonest malignant parotid neoplasm. The incidence of Ex-Pleomorphic adenoma is 1.5% over first 5 years, however risk increases up to 9.5% if swelling is present more than 15 years.⁴ Malignant carcinoma of the parotid gland is not uncommon.⁵ Histologic grading includes factors like intracystic component, perineural invasion, necrosis, mitoses, bony invasion and lymphovascular invasion and is divided into low, intermediate and high grade tumors. Among salivary glands tumors parotid constitutes 20%, submandibular constitutes 50 % whereas sublingual and minor constitutes 70% of malignancy rates.

CASE REPORT

A 64 year old male patient presented with a painless, hard, mobile swelling present over the left pre-auricular region for about 20 years duration is reported. Examination of the swelling was done. He was a known

diabetic for the 6 years. No other significant history noted. On physical examination, a hard, mobile, 5cm swelling was palpable at left pre-auricular area. No enlargement of lymph nodes was noted. Facial nerve functions were intact. All routines were normal. Fine needle aspiration cytology (FNAC) showed sheets and loose aggregates of epithelial cells with bland nuclei and scanty cytoplasm. Occasional loose clumps show moderate eosinophilic cytoplasm and loose sheets of mature squamous cells in places. Background has numerous single cells with plasmacytoid appearance. Picture in favour of benign adenoma with squamous metaplasia, differential diagnosis includes malignant carcinoma of parotid. Magnetic resonance imaging (MRI) neck done which showed relatively well defined heterogeneous lesion with lobulated margin and bubbly appearance with multiple cystic foci seen in the anterior 1/3rd and inferior half of the superficial lobe of the left parotid gland. Deep lobe not involved. Biopsy of the tumour showed PT2 PNO Mucoepidermoid carcinoma – Parotid, low grade, margins focally involved by the tumour.

Figure 1-3 shows classical histopathological picture of low grade mucoepidermoid carcinoma Figure 4 shows pre operative image of the swelling present in the pre-auricular region. Under general anaesthesia, Modified Blair incision was made (Figure 5), incision deepened to

subcutaneous tissue, upper flap raised upto anterior border of parotid up to the masseter (Figure 6). Anterior branch of posterior auricular nerve identified and sacrificed. Tragal point identified and dissected to identify styloid branch of posterior auricular artery which is in close relation to the facial nerve. The findings were multiple hard lymph nodes present, facial nerve trunk visualised and branches found adherent to the parotid gland. Even though FNAC was pleomorphic adenoma, during surgery the growth was found to be adherent to the facial nerve. Dissection was kept above the facial venous plane, facial nerve branches was found to be adherent to the tumour. Blunt dissection done and shaving of the superficial lobe of parotid from the facial nerve trunk without injuring the facial nerve was done. I/V/O adherent facial nerve limited lymph node dissection was done. Superficial parotid gland and the tumour was removed (Figure 7) and remnant parotid was sutured. Hemostasis was achieved. Irrigated with saline was done and the facial nerve integrity was checked. Subcutaneous was closed with absorbable suture and the skin was close with non-absorbable suture. Suture removal was done one week post surgery. Surprisingly patient did not develop any signs of facial nerve palsy. Regular postoperative follow-up was done.

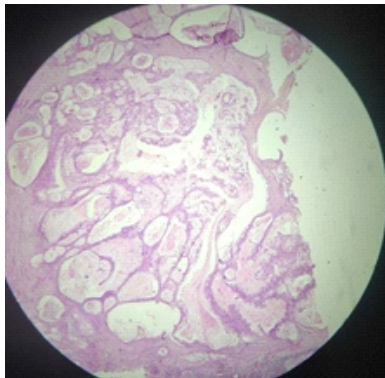


Figure 1: Scanner view(x4) showing a neoplasm with prominent cyst formation

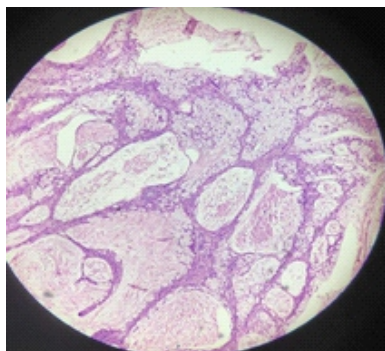


Figure 2: Low power view(x10) showing cysts, high proportion of mucin producing cells along with Squamous cells and intermediate cells

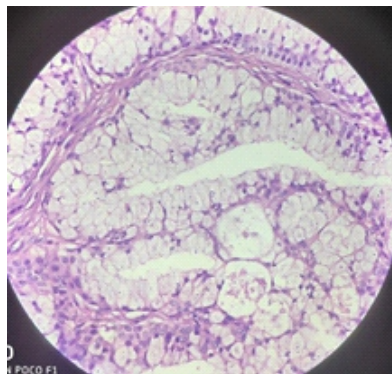


Figure 3: High power view(x40) showing three main cell types—predominantly mucin producing, Squamous (epidermoid) and intermediate cells in varying proportions



Figure 4: Swelling – Pre-operation image showing swelling over the left pre-auricular region

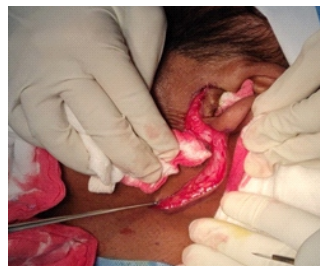


Figure 5: Modified Blair incision (Lazy S incision)

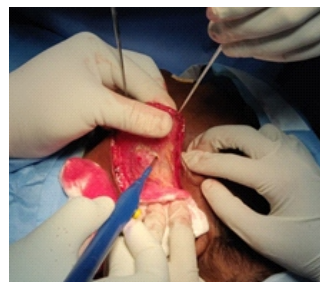


Figure 6: Flap raised at cervicofacial plane

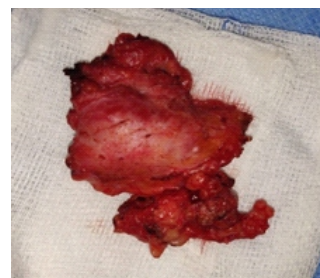


Figure 7: Tumour specimen showing excised parotid

DISCUSSION

Among head and neck malignancies salivary gland malignancies constitutes less than 5%.⁶ A mucous, epidermoid and intermediate cell constitutes malignant carcinoma of parotid. High grade is the commonest ones with poor prognosis which usually contains more squamous cells. Low grade tumours contains a high amount of cystic spaces mucous cell lines which is the least common variety.⁷ Excision of the tumour by means of superficial parotidectomy is the treatment. Facial nerve branches are easily susceptible to damage during parotidectomy, therefore identification and preserving the facial nerve plays a vital role during parotidectomy. In some cases where the facial nerve is invaded by the tumour, it leads to impaired facial nerve functions. Early detection of malignant parotid tumours through imaging studies like MRI and computer tomography (CT) is therefore vital in yielding favourable disease outcomes. In this case initial FNAC showed features of pleomorphic adenoma so there is no role for incisional biopsy and so for this case incisional biopsy was not done. Post procedure histopathology report was low grade mucoepidermoid carcinoma which also proves that the sensitivity of FNAC was only 70%. In low grade tumours if margins (≤ 1 mm) are close these patients did not get any benefit from adjuvant radiotherapy.⁸

CONCLUSION

Most of the parotid swellings are benign but it also includes some of the malignant tumours. This case differs by a long history of 20 years with no increase in size and also it was freely mobile which remains exceedingly rare. It is a rare entity but in usual cases mucoepidermoid carcinomas (MECs) if left undiagnosed can encroach the facial nerve which ends up in sacrificing the nerve or one of its branches. Early

detection of such tumours through multidisciplinary team approach and good clinical history will give favourable disease outcomes. Also it proves the low sensitivity of FNAC in malignant carcinomas. This case also proves the valuable role of incisional biopsy in case of inconclusive FNAC for malignant carcinomas.

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