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# SCHWANNOMA OF THE PAROTID GLAND WITH LEFT FACIAL WEAKNESS – A CASE REPORT

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*Schwannoma, Neurilemmoma, Facial Nerve, Parotid Gland.*

***Abstract***

Schwannoma is an uncommon ectodermal benign encapsulated tumor arising from Schwann cells of neural sheath of motor and sensory peripheral nerves. It is also known as Neurilemmoma. The etiology is unknown, peak incidence 3rd to 6th decade and there is no gender prediliction. The estimated frequency of involvement of facial nerve is 0.2-1.5%. A 70 year old male, presented with a swelling in the left parotid gland. Clinical examination revealed left facial weakness. Magnetic resonance imaging showed a well circumscribed lobulated lesion. During surgery, we observed that tumor was adherent to the deep layer of facial nerve trunk. The patient had post operative ipsilateral facial paresis. Although facial nerve palsy is not commonly seen in such tumour, proper preservation of this nerve is mandatory to avoid the post operative complication and the patient should be explained about this complication preoperatively.

## Introduction

Schwannomas usually involve vagus and vestibulocochlear nerves. Rarely it involves facial nerve, which has an extratemporal & intracranial course. Most of the schwannomas of facial nerve arise on the intratemporal part wheras 9% are located extracranially. It appears as a solitary smooth surfaced slow growing asymptomatic parotid mass. Most patients do not present with facial nerve palsy[1]. It is rarely diagnosed preoperatively because of the low incidence rate and lack of classical signs associated with it. Intraparotid facial nerve schwannomas are rare benign neoplasm, that poses a challenge in diagnosis and management[2]. We present one such case, which underwent surgical excision of the tumor arising from the deep branch of facial nerve trunk and the patient ended up with ipsilateral facial paresis postoperatively.

## Case study

A 70 year old male patient presented to the ENT department of our institute with a one year history of a gradually enlarging mass in the left infra auricular region (Fig 1). There was a history of left sided facial weakness . Examination revealed a 2x2 cm firm, non-tender, mobile mass below the left pinna. Facial nerve function was abnormal whereas other ENT examination was normal. FNAC was done and it did not reveal any evidence of malignancy.: Magnetic resonance imaging showed a well circumscribed lobulated lesion (3*2 cm) in the left parotid, situated directly caudal to the stylomastoid foramen and protruded into it. T1 weighted imaging showed lesion to be isointense to muscle and T2 weighted imaging revealed a high signal intensity area surrounding a central region of lower signal intensity(Fig 2). Intraoperatively we observed that tumor was adherent to the deep layer of facial nerve trunk.

Superficial parotidectomy was performed and a 3x2 cm mass arising from the deep layer of facial nerve was seen . The mass was dissected free and removed from all the branches of the facial nerve except the buccal branch, which had become incarcerated into the mass. Post operatively; there was a transient weakness of the buccal branch of facial nerve, which gradually improved & three months later, the facial nerve function had significantly improved.

Postoperative histological examination was suggestive of a benign schwannoma. The tumor was histopathologically (Fig 3) seen as benign looking, spindle shaped with blunt ended nuclei (regimentation). Palisading of nuclei and Verocay bodies were seen. Secondary changes like cystic and hyaline degeneration were present

## Discussion

The head and neck regions accounts for 25 to 45 percent of benign schwannomas, [3] and most of these in the eighth nerve but are relatively uncommon from the seventh nerve. Neurogenic tumours found are mainly neurofibromas and schwannomas (Neurilemmomas)[3]. Schwannomas are benign neurogenic tumors that arise from nerve sheath Schwann cells. Frequency of disease is low and there are very typical signs[4]. So it is difficult to make a preoperative diagnosis. The estimated frequency is around 0.2-1.5%.

Verocay first described what are now accepted as tumours derived from Schwann cells in 1908, terming them neurinomas. Stout recognized the schwannian derivation shortly thereafter, and employed the term Schwannoma for the same entity.[5]

More than 80% of parotid masses are benign (pleomorphic adenomas being most common). Asymptomatic swelling of parotid gland is the main presenting complaint. Facial nerve is rarely affected. 25-45% of all schwannomas are seen in head and neck area. Most of these arise along vestibular portion of 8th cranial nerve (acoustic neuroma)[6] ..

Schwannomas can occur either as genetic (NF1 and 2) or as sporadic neoplasms[7] . Pathologically two different patterns can be recognised – Antoni A & B. Antoni A areas are cellular, compact and composed of spindle cells with nuclei often arranged in palisading pattern. Eosinophilic masses called Verocay bodies are seen. In Antoni B areas, tumor cells are separated by abundant myxoid, often microcystic matrix[8] .

Neurogenic intraparotid facial nerve neoplasm always present as a preauricular or facial mass[9]. Nearly half of these extra temporal tumors involve the main trunk of the nerve[7].Facial paralysis associated with a parotid mass nearly always signals a malignancy[8] but facial paresis resulting from an extra temporal facial nerve schwannoma has been reported . Neurogenic neoplasms in the parotid gland are rarely suspected and therefore pre-operative electro-diagnostic tests are often not considered[10]. Neurogenic tumors should be suspected intraoperatively when they are inseparable from the nerve and electrical stimulation of the tumor elicits facial movement. Surgical resection remains the definitive treatment although benign tumors associated with normal facial nerve function may be carefully followed with serial electroneurography and computerized tomography when electrical testing reveals minimal evidence of progressive neural degeneration[11].

## Conclusion

Schwannomas of parotid gland are rare, benign encapsulated tumor, arising from Schwann cells of facial nerve. Clinical diagnosis is often difficult. Pathological diagnosis is mandatory. So when we deal with cases of parotid mass, schwannoma should be considered. Though Schwannomas of the seventh nerve are relatively uncommon, we suggest that such a possibility should also be kept in mind when dealing with painless parotid tumors, gradually increasing in size as the management differs significantly.

## References

1. Salemis NS, Karameris A, Gourgiotis S, et al. Large intraparotid facial nerve schwannoma: case report and review of the literature. Int J Oral Maxillofac Surg 2008;37(7):679–81.
2. Shimizu K, Iwai H, Ikeda K, Sakaida N, Sawada S. Intraparotid Facial Nerve Schwannoma: a report of five cases and an analysis of MR imaging results. AJNR Am J Neuroradiol 2005;26(6):1328-30.
3. Mrugala MM, Batchelor TT, Plotkin SR. Peripheral and cranial nerve sheath tumours. Curr Opin Neurol 2005;18(5):604-10.
4. Irfan M, Shahid H, Yusri MM, Venkatesh RN. Intraparotid facial nerve schwannoma: a case report. Med J Malaysia 2011;66(2):150-1.
5. Chiang CW, Chang YL, Lou PJ. Multicentricity of intraparotid facial nerve schwannomas. Ann Otol Rhinol Laryngol2001;110:871–874.
6. Stout A.P. (1949). Atlas of Tumor Pathology. Tumors of the peripheral nervous system. Section II Fascide 6, AFIP Washington DC, pp 15-16.

7. Jung T.T.K, Jun, B, Shea, D, Paparella, M.M. (1986) Primary & secondary tumors of the facial nerve. A Temporal bone study. Otolaryngology -Head and Neck Surgery 112:1269-1273.
8. Kyriakos M., Pathology of selected soft tissue tumors of the head & neck. In: Thawley S.E, Panje WR, Batsakis JG, and Lindberg RD, Eds. Comprehensive management of head and neck tumors .1st Ed.Philadelphia: WB Saunders, 1987:1254-1256.
9. Eneroth CM, Hamberger CA. Principles of treatment of different types of parotid tumours. Laryngoscope 1974; 84:1732-1740.
10. Nussbaum M, Cho HT, Som ML. Parotid spaces tumors of non-salivary origin. Ann Surg 1976; 184:10-12.
11. Romero-Guadarrama MB, P Alonso de Ruiz, H Cruz-Ortiz, Rodríguez-Martínez HA. Salivary gland myoepitheliomas: cytological, histological, immunohistochemical and electron microscopical studies of four cases. Rev Med Hosp Gen Mex 2001;64(3):147-51

***Fig 1 Patient with the mass in the left parotid***

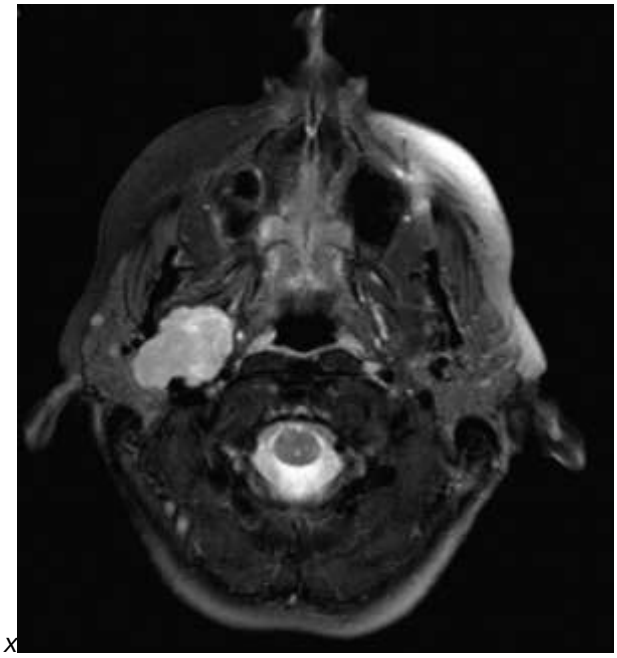

*Fig 2 (MRI - a well circumscribed lobulated lesion (3*2 cm) in the left parotid)*

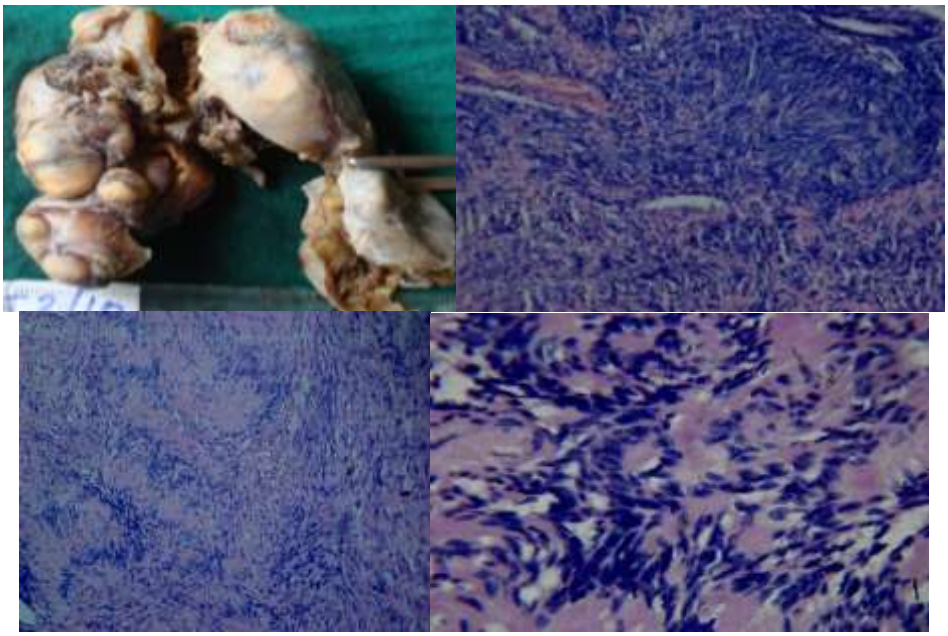

*Fig 3 HPE picture of the mass showing Palisading of nuclei and Verocay bodies*