Intra Parotid Facial Nerve Schwannoma: A Case Report

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Citation

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Abstract

Schwannoma is a benign, capsulated perineural tumour of neuroectodermal derivation that originates from the Schwann cells of the neural sheath of motor and sensory peripheral nerves: the etiology is still unknown. The tumour is usually solitary, smooth surfaced, slow growing and generally asymptomatic. Intraparotid facial nerve schwannomas are uncommon. These benign tumors of neurogenic origin should be considered in the differential diagnosis of parotid region masses. A case of facial nerve schwannoma from the buccal branch of intraparotid region is described with review of literature. The case is of interest due to the relative rarity of the pathology and presence of non-significant symptoms for a presumed initial clinical diagnosis.

INTRODUCTION

Schwannomas referred to as neurilemomas or neurinomas are benign, capsulated tumours of neuroectodermal derivation those originates from the schwann cells of the neural sheath of motor and sensory peripheral nerves; the etiology is still unknown. Although they may arise at any age, the peak incidence is between the third and sixth decades[1]. There is no gender predeliction. The tumour is usually solitary, smooth surfaced, slow growing and generally asymptomatic. Facial nerve schwannoma can arise from any segment of the nerve from the glial-schwann cell junction at the cerebellopontine angle to the peripheral branches in the face. Origin from intraparotid part of facial nerve is rare[2]. We present one such case, which underwent surgical excision of the tumor arising from the lower branch of facial nerve with preservation of facial function and review the literature.

CASE REPORT

A 25 year old female 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. There was no history of facial weakness or pain. Examination revealed a 2x2 cm firm, non-tender, mobile mass below the left pinna. Facial nerve function along with other ENT examination was normal. FNAC was suggestive of a spindle cell tumor: Intraoperatively, the main trunk of the facial nerve was normal.

Superficial parotidectomy was performed and a 3x2 cm mass arising from the buccal branch of facial nerve was seen Fig. 1(a). 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. On gross examination the mass measured 2x1.5cm. It was well encapsulated and cut section was gray white. Microscopic showed a spindle cell tumor with antoni A and B areas. Characteristic verocay bodies were also identified Fig.2 (b). Adjacent salivary gland tissue was not identified.

Figure 1

Figure 1a: Intraoperative photograph showing the tumor arising from the buccal branch of the left facial nerve.

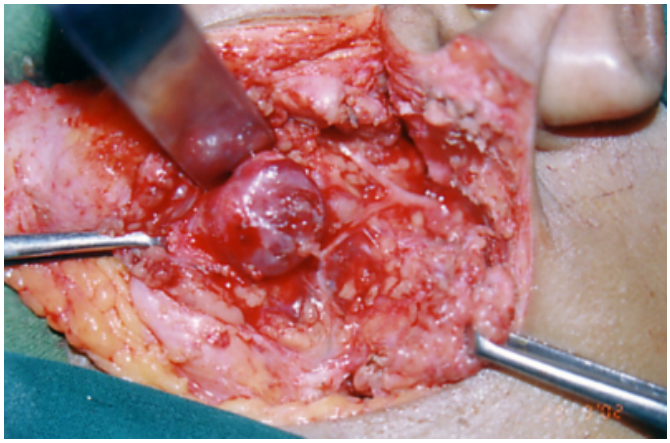
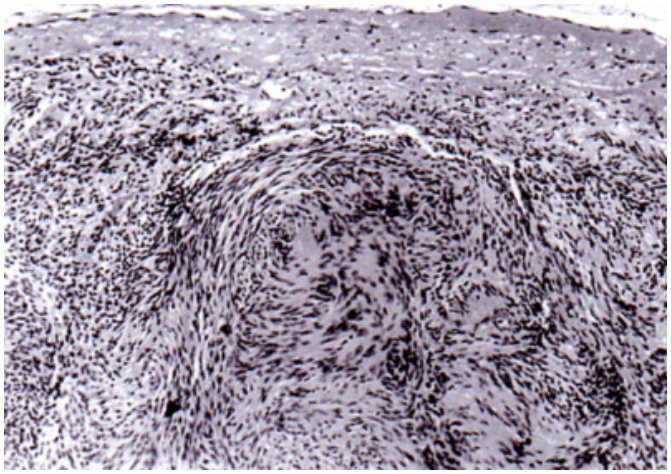


Figure 2

Figure 1b: Microphotograph showing verocay bodies with nuclear palisading and a well encapsulated tumor (H&E x 20)



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). They represent a pathology, which is often not taken into account during clinical practice.

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[1].

The diagnosis is confirmed by microscopic examination. Two microscopic patterns are seen, which are known to coexist; Antoni A areas, in which the schwann cells were arranged in compact, twisted bundles, with nuclei aligned in parallel rows forming a typical palisading pattern. There is formation of eosinophilic masses called Verocay bodies between these rows. In Antoni B pattern, the tumor is less densely cellular, with a loose meshwork of cells along with micro cysts & myxoid changes similar to neurofibroma.[7]

Among 802 parotid tumors, Eneroth could demonstrate two cases with neurogenic origin[4]and in a review of 700 parotidectomies Nussabaum found only one case of neurilemmoma of the facial nerve[5].

Neurogenic intraparotid facial nerve neoplasm always present as a preauricular or facial mass[6]. 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 [6,9,10].Neurogenic neoplasms in the parotid gland are rarely suspected and therefore pre-operative electro-diagnostic tests are often not considered [9]. 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 [7].

Preservation of facial nerve function is of paramount importance when dealing with these benign tumors. Occasionally, the schwannoma is mistaken for fibro sarcoma on frozen section and unwarranted radical surgery is performed [7], For this reason the surgeon should await the permanent section before proceeding with the radical surgery.

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.

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References

1. Stout A.P. (1949). Atlas of Tumor Pathology. Tumors of the peripheral nervous system. Section II Fascide 6, AFIP Washington DC, pp 15-16.
2. 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.
3. 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.
4. Eneroth CM, Hamberger CA. Principles of treatment of different types of parotid tumours. Laryngoscope 1974; 84:1732-1740.
5. Nussbaum M, Cho HT, Som ML. Parotid spaces tumors

of non-salivary origin. Ann Surg 1976; 184:10-12.
6. Prasad, S., Myers, E.N. kam erer, D.B., Demetrsis, A.J. (1993) Neur Plemmom a (schwannoma) presenting as a parotid mass. Otolaryngology-Head and Neck Surgery 108:76-79.
7. Sullivan MJ, Babyak JW, Kartush JM. Intraparotid facial neurofibroma Laryngoscope 1987; 97:219-223.
8. Jackson C.G., Glass cock, M.E., Hic ghes, G., Sismanis A. (1980) Facial paralysis of neoplastic origin: Diagnosis and management.
9. Conley J, Jonick I. Neurilemmoma of the facial nerve. Plast Reconstr Surg 1973; 52:55-60.
10. Neely,J.G., Alford,B.R.(1974) Facial nerve neuromas-Archives of Otolaryngology 100:298-301.

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