

Intraparotid Facial Nerve Schwannoma: A Case Report

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SUMMARY

Schwannoma in the head and neck region is very rare. The tumour occurring in the intraparotid facial nerve is even rarer. A patient presenting with a parotid swelling with facial nerve paralysis is not pathognomonic of a facial nerve schwannoma. However it may occur because enlargement of the parotid, by any kind of tumour especially a malignant one can cause facial nerve paralysis. We report a case of an intraparotid facial nerve schwannoma, in a patient who presented with parotid enlargement and facial nerve paralysis.

KEY WORDS:

Parotid, Facial nerve, Schwannoma

INTRODUCTION

The majority of parotid tumours are benign lesions. Facial nerve involvement is usually associated with the malignant counterpart. In rare conditions, facial nerve paralysis due to the compression effect of a benign tumour does occur. However, paralysis due to a tumour of the intraparotid segment of the nerve facial nerve itself is even rarer.

CASE REPORT

A 39 year Malay lady presented with a history of a left infra-auricular swelling of one and a half years duration. It was progressively increasing in size and associated with left facial weakness. The left angle of her mouth was asymmetrical. There was inability to completely close the left eye. Examination showed that there was an enlarged left parotid mass, measuring about 6x6 cm (Figure 1). It was mobile, non-tender and firm in consistency. Left lower motor facial nerve paralysis was noted, House-Brackmann grade IV. There was no other positive signs.

Fine needle aspiration cytology was inconclusive. Computed tomography images were consistent with a left parotid tumor. There was a large multiseptated cystic mass with solid components. Based on the investigation, the diagnosis of left parotid tumor with the possibility of a malignant lesion was made based on progression of the disease and facial nerve involvement. Consent was obtained for total parotidectomy with facial nerve monitoring.

Intraoperatively, the mass was found to be relatively superficial. It was very well encapsulated, and cystic. The mass could be removed totally (Figure 2). Identification of the facial nerve branches adjacent to the mass was attempted but none were found. Further deep exploration was not

attempted as this might induce further damage. The surgery ended with just excision of the lump.

The post-operative period was uneventful. The patient was discharged with some remaining facial nerve weakness House Brackmann grade IV. She was followed up until 5 months with minimal improvement of facial nerve function. She then default her subsequent appointment.

Histopathological examination of the specimen revealed a well encapsulated tumor composed of spindle cells. The tumor showed hypo and hypercellular areas. Verocay bodies were also present. Scattered macrophages, some containing hemosidrin pigment was present. Stain for S100 protein showed strong positivity. These features were consistent with schwannoma (Figure 2).

DISCUSSION

The reported prevalence of facial nerve schwannoma is very low¹. The intraparotid portion of the facial nerve contributes only a small portion of these. Caughey RJ *et al* in 2004 had conducted a retrospective study over 38-year period, focusing on facial nerve schwannoma involving parotid gland. Out of a total of 3,722 patients with schwannomas reviewed, only 29 cases related to facial nerve. From this small figure, only 8 involved the parotid segment of the facial nerve². In Malaysia, a 10-year retrospective analysis of facial nerve schwannomas operated in Universiti Kebangsaan Malaysia Medical Centre revealed only one out of six was from intraparotid segment³.

Although parotid tumours usually present with a unilateral solitary painless lump, the clinical presentation of intraparotid facial nerve schwannoma varies. Facial weakness is not always present although the tumour originates from the nerve. Consistent presenting features include an asymptomatic parotid swelling, mobile and mimicking a pleomorphic adenoma⁴. Thus, the diagnosis is difficult to obtain pre operatively.

In addition, the role of fine needle aspiration of cytological examination (FNAC) in parotid lesions is still debatable. Inohara H *et al* in 2008 concluded that the accuracy of FNAC in parotid lesions were 80% and 62% for benign and malignant lesion, respectively⁵. The diagnosis of intraparotid facial nerve schwannoma is more difficult and in most cases it is inconclusive or suggests pleomorphic adenoma². The decision for surgical intervention was made based on uncertainty of pre operative diagnosis and progressive involvement of facial nerve function. In this case, superficial

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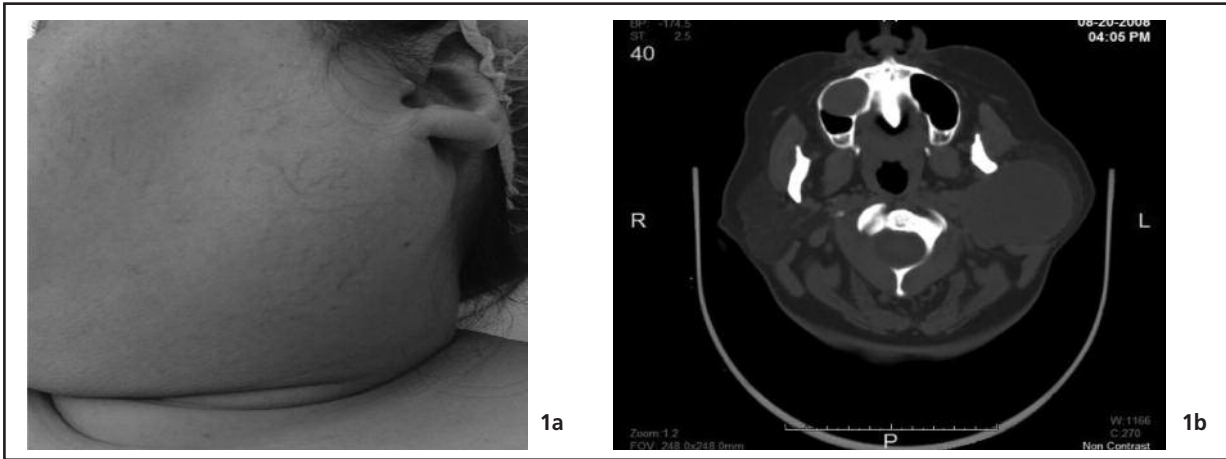


Fig. 1: a: Left parotid swelling. At this time patient presented with left facial nerve palsy involving marginal mandibular branch.
b: A large multiseptated cystic with solid component left parotid tumour

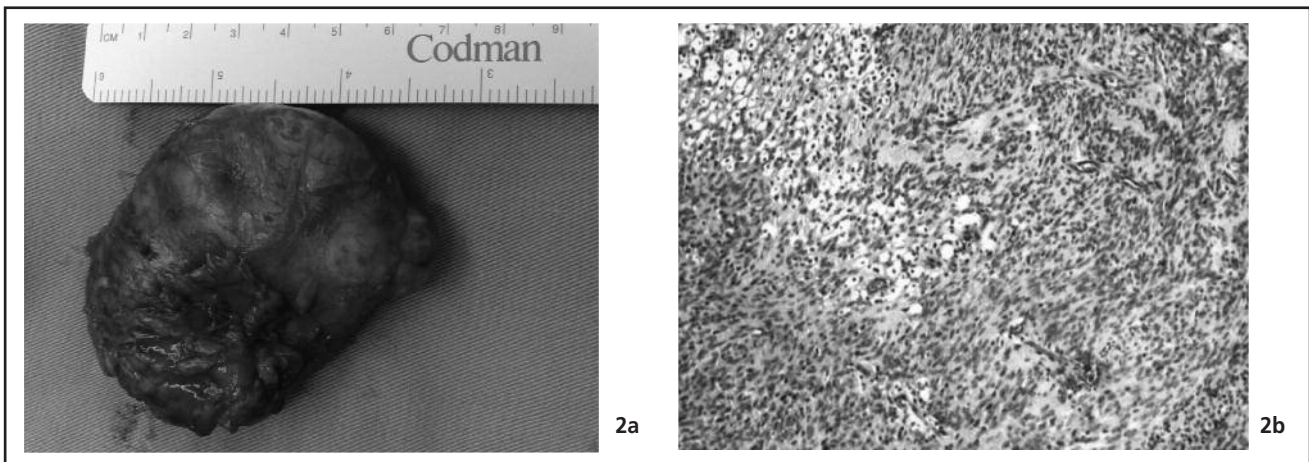


Fig. 2: a: The mass removed in total, measuring 7x7 cm
b: Spindle cell tumor showing antoni A and antoni B areas. Verocay bodies and macrophages are present. H&E, 10x.

parotidectomy was planned. Intraoperatively, the facial nerve stimulator was used to locate the facial nerve. After careful dissection of the well encapsulated tumour, the nerve could not be identified. Some reports do consider the difficult identification of facial nerve intra-operatively as the most diagnostic feature of facial nerve schwannoma.

In cases where the diagnosis is established pre-operatively or highly suspected intra-operatively, the facial nerve should be identified either by retrograde or antegrade technique. A more complete surgery that should be performed would be to identify the proximal and distal segments of the nerve and graft it. The two ends can be grafted immediately or tagged for reanastomosis procedure later. However, in this case, as the mass appear intra-operatively very superficial and very well encapsulated, on top of no nerve or branches were discovered at all, the surgical procedure ended up with excision of the mass.

The definite diagnosis of facial nerve schwannoma was confirmed by the histological evaluation of the resected specimen. Post-operatively, the patient should be followed up to monitor the recurrence of the disease as well as

improvement of facial nerve function if neuropraxia is suspected. However, if a branch is resected then the recovery is more difficult to be expected although inter-branch communications may be present. In our case, the patient was last seen in the clinic until 5 months post-op with residual facial nerve paralysis of House Brackmann grade IV before she defaulted.

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