

Intraparotid Facial Nerve Schwannoma: A Case Report

Garima Tamta¹, Nidhi Bhardwaj², Shahzad Ahmad³

Department of Otorhinolaryngology, Government Medical College, Haldwani, India

Abstract: Facial nerve Schwannomas can arise anywhere along its course but are more common in the intratemporal course. Parotid Schwannomas are very rare and mostly do not have any Facial nerve dysfunction. We are reporting a case of 60 year male patient with swelling in the left side of face for four years who presented with a clinical picture of adenoma of parotid gland but turned out to be intraparotid facial nerve schwannoma by radiology and histopathology.

Keywords: Schwannoma, Intraparotid, Facial nerve tumors

1. Introduction

Schwannoma is usually a benign nerve sheath tumour composed of Schwann cells, which normally produce the insulating myelin sheath covering peripheral nerves. Intraparotid Schwannoma was first reported in 1927 by Ibarz. The prevalence is low and preoperative diagnosis of intraparotid Facial nerve Schwannoma is difficult. In a study by Fortan et al, majority of lesions were found in the intratemporal course, whereas 9 % tumours were found in the parotid gland. Schwannoma may exhibit target sign and string sign in MRI which aid in diagnosis.^[1]

2. Case Report

A 60 year old male, service man by occupation presented with swelling in the left side of face for four years. The swelling was insidious in onset and gradually progressive in nature. It was a firm, 4*4 cm sq. single, extending from below and front of the ear to the angle of mandible, globular swelling, freely mobile in all directions, non - tender. The skin overlying the swelling had temperature same as the surrounding skin and there were no visible pulsations. There was no history of fever or any other constitutional symptoms.

Laboratory tests such as complete haemogram, ESR, CRP were found to be within normal limits.

Ultrasound imaging showed two well defined mixed echogenicity lesions around 3 cm x 2 cm and 1.5 cm x 1.3 cm in left parotid gland with communication between both lesions. No raised vascularity was noted.

FNAC – Smears were cellular and showed loose clusters of myoepithelial cells displaying oval to spindle shaped hyperchromatic nuclei, coarse chromatin, inconspicuous embedded in a fibrillary stroma. At places, nuclear palisading was also seen against a clear background.

The possible diagnosis being Benign Spindle Cell Lesion ?schwannoma??benign myoepithelial lesion.

MRI Neck showed a well - defined heterogeneous lesion in left parotid gland occupying both superficial and deep lobes. No calcification/ regional lymphadenopathy seen.

Excision of the tumor mass in – toto was done under general anesthesia and the post - operative period was uneventful. Histopathological reporting showed alternating hypercellular Antoni A and hypocellular Antoni B areas along with nuclear palisading (Verocaybodies), focal areas of hemorrhage and focal areas of xanthomatous changes. These features suggested the lesion to be a Schwannoma.

3. Discussion

Schwannomas were first reported by Virchow in 1908 and arise from the neural sheath of the peripheral sensory, motor, sympathetic, and cranial nerves^[2]. Schwannomas are encapsulated, soft and white, yellow, or pink tumors. They occasionally feature areas of calcification and/or cystic degeneration. Their capsule is continuous with the epineurium, the most external nerve sheath. Microscopically the diagnosis is confirmed by histopathologic evaluation. Histologically, two types of tissues are seen: the Antoni A area is characterized by the presence of elongated and spindle - shaped Schwann's cells, and their nuclei are aligned in a palisading pattern (Verocay bodies). The hypo cellular Antoni B area has a varying degree of cell pleomorphism; irregular cell types are scattered in loose connective tissue, and there is no definable palisading of tumor cell nuclei. Both Antoni areas are usually found in the same tumor, but their respective proportions vary. Nerve fibers are not part of the tumor because the mass arises from Schwann's sheath and pushes the nerve axons aside^[3]. Immunostaining for S - 100 is required to establish the neural origin of the tumor and smooth muscle actin (SMA) to rule out a leiomyoma.

Intraparotid FNS are solitary, painless, slow growing masses mimicking the tumors of the parotid gland and have a different clinical presentation. Although tumor arises from the nerve itself, the function of the facial nerve is generally unaffected. It is interfered with malignant parotid tumors if there are facial paralysis and pain. The incidence of intraparotid facial nerve palsy is approximately %20 - 27^[4]. The ability of the parotid gland to accommodate tumor expansion well and the propensity of tumor to grow

eccentrically and push nerve fibers away account for the low rate of facial palsy in intraparotid FNS.

Marchioni et al. suggested a classification of intraparotid FNS according to its position in the facial nerve pathway. In this classification, there are 4 types of intraparotid FNS. Type A tumors can be resected without sacrificing the facial nerve. Type B tumors can be resected with partial sacrifice peripheral branches of facial nerve or their distal divisions. Type C tumors require sacrificing the main trunk of the facial nerve for their resection, while type D tumors require sacrificing the trunk and its main divisions to be resected

4. Clinical Significance

In parotid region, most tumors are not of neurogenic origin. The incidence of FN neoplasm is about 0.2 to 1.5 percent among parotid region tumors. Thus, it is difficult to consider neurogenically originated FN schwannoma as preoperative diagnosis in a patient with an asymptomatic parotid mass. FN schwannoma is often confused with pleomorphic adenoma because of their similar appearances on facial computed tomography (CT) scan. Due to its rarity and radiologic ambiguity, there is a good chance of misdiagnosis and malpractice resulting from unexpected FN injury during surgery.

Marchioni et al. proposed a classification of intraparotid FN schwannoma. The determination of involved branches of the FN is important in order to make therapeutic decision and to predict postoperative FN function.

It is crucial to take FN schwannoma into account when a patient is presented with parotid mass. In this report, we present one case followed by a discussion about the proper management strategy.



Figure 1: Clinical Presentation with swelling on left side of the face.



Figure 2: MRI finding showing heterogeneous lesion in left parotid gland



Figure 3: Lesion seen intraoperatively.



Figure 4: Gross picture of lesion.

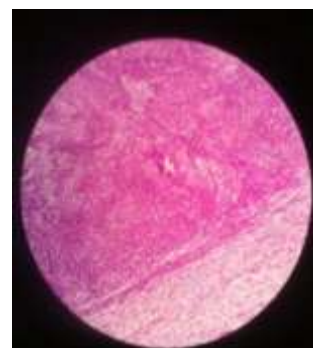


Figure 5: Histological examination

5. Conclusion

Intraparotid facial nerve schwannoma can be encountered, a little bit more than expected, in the major salivary glands. There, a rapt attention should be paid to avoid misdiagnosis because IPFNS tends to elude both clinicians and pathologists. When IPFNS embraces the facial nerve, or its

terminal branches, a considerable veneer of sophistication is evinced.

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