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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/18435
DOI URL: http://dx.doi.org/10.21474/IJAR01/18435

RESEARCH ARTICLE

CASE REPORT OF INTRAPAROTID FACIAL NERVE SCHWANNOMA

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Manuscript Info

Manuscript History
Received: 18 January 2024
Final Accepted: 21 February 2024
Published: March 2024

Key words:-
Parotid Gland, Facial Nerve, Schwannoma

Abstract

Schwannoma is a rare, benign, slow growing tumor originating from Schwann cells or nerve sheaths. Facial nerve Schwannomas are usually intratemporal with extratemporal being only 9% cases. Facial palsy is usually seen in patients with Intratemporal facial nerve Schwannomawhereas patients with Intraparotid Facial Schwannomas usually present with a slow growing parotid region swelling without any facial palsy. Hence, differentiation of Intraparotid Facial Nerve Schwannoma from other Benign tumors involving the parotid gland is difficult.This is a case report of a 57 year old male patient who presented to the ENT OPD of HBTMC & Dr. R.N. Cooper Hospital, Mumbai with Right Parotid region swelling who underwent surgery for the same with histopathology report suggestive of Facial Nerve Schwannoma.

Introduction:-

Eighty percent of Parotid swellings are Benign tumors. Pleomorphic adenoma, Warthin tumor, Oncocytoma, Monomorphic adenoma, Benign Lymphoepithelial lesions being the common tumors (1). The incidence of Parotid tumors originating from the Facial nerve is 0.2-1% (2). Schwannoma is a rare, benign, slow growing tumor originating from Schwann cells or nerve sheaths of any myelinated central or peripheral nerve. It is classified as a Grade I benign tumor by The World Health Organization. Schwannomas are solitary mostly but can have multiple occurrences in some patients with syndromic associations like neurofibromatosis type 2 or Carney complex. . Most of the facial nerve schwannomas are localized in intratemporal region; only 9% of cases involve a portion of the extratemporal segment (3).

Most Intratempora Facial Schwannomas present with Facial nerve palsy but Extratemporal Facial nerve Schwannomas present as Parotid region swelling with no facial nerve paralysis. Adding to that, since they are rare, their pre operative differentiation from other Benign Parotid gland tumors is difficult. Intraoperative suspicion of the mass involving only the nerve trunk or one of its peripheral branch can help us guide in making a decision regarding the surgical management.
We report a rare case of Intraparotid Facial nerve Schwannoma involving the Buccal branch of Facial nerve.

Case Report :

A 57 year old male patient presented to ENT OPD of HBTMC &Dr. R. N. Cooper Hospital, Mumbai with chief complaints of Right sided Parotid region swelling since 6 months. Swelling was insidious onset, gradually progressive not associated with pain, fever, sudden increase in size of swelling, no change in size of swelling with consumption of food and no history of intraoral discharge. No similar swelling was noticed on opposite side. No

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history of significant weight loss or loss of appetite. No history of weakness in facial movements. Patient denied any addiction.

On Examination, a solitary, firm non tender swelling of approximately 6x5 cm was palpable in Right parotid region extending from below right ear lobule to 2 finger below right angle of mandible and 3 cm anterior to lobule to 3 cm posterior to ear lobule lifting the right ear lobule upwards. On facial nerve examination, no facial weakness was noted (Fig 1 & 2)

Fig(1):-

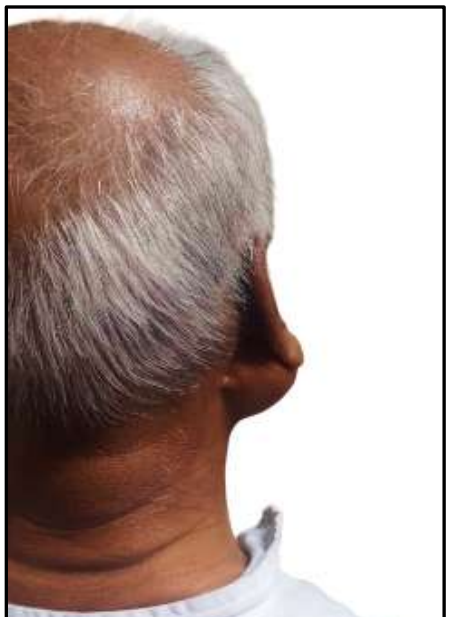

Fig (2):-

Ultrasonography was suggestive of Pleomorphic adenoma. FNAC was attempted twice and revealed blood so tissue diagnosis was advised. MRI was suggestive of a well defined lobulated heterogeneously altered signal mass lesion in Right parotid gland, which involves superficial and deep lobe measuring 32.1x46.8x45mm (APxMLxSI). The lesion is seen encapsulated, hypointense on T1 and hyperintense with heterogeneously avid post contrast enhancement on T2W/ STIR (Fig 3 & 4)

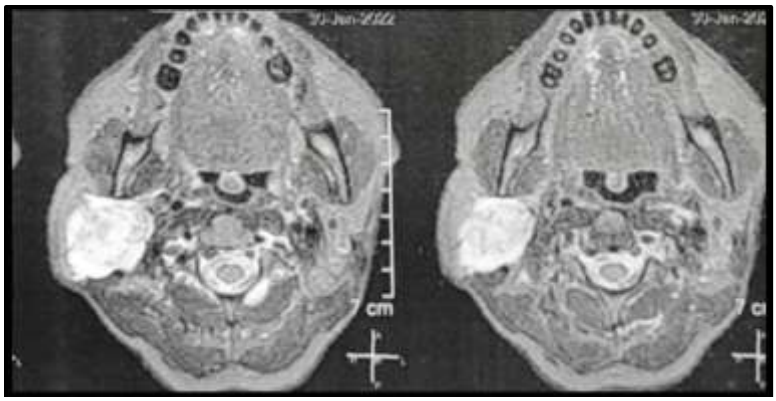

Fig (3):-

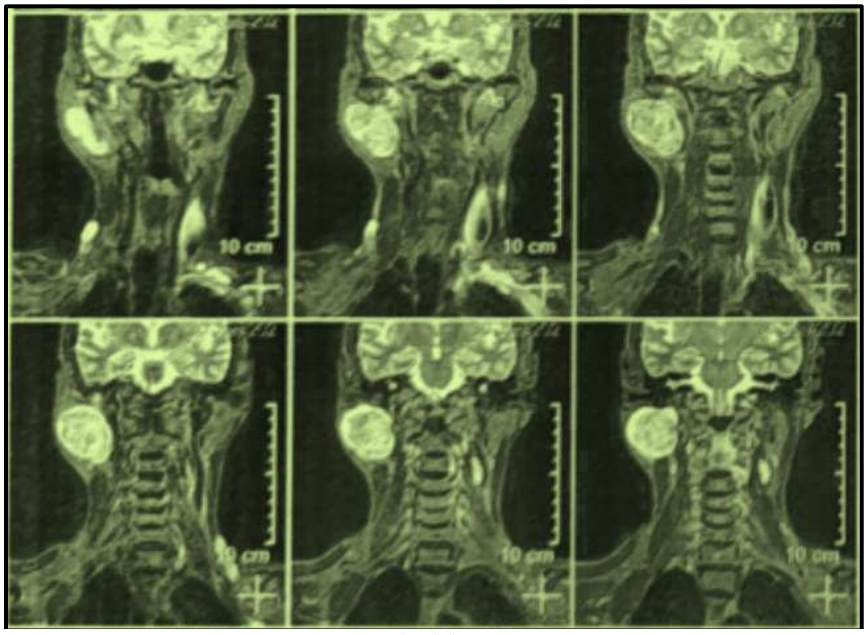

Fig (4):-

Surgical removal of the parotid gland was planned under the impression of Pleomorphic adenoma as per pre operative investigations, but intraoperatively a well encapsulated, yellowish tumor was found involving a nerve branch suspected to be Buccal branch of Facial nerve. Hence, removal of the mass with superficial parotidectomy preserving all other branches of facial nerve was performed (Fig 5)

Fig (5):-

Histopathology sections showed biphasic spindle cell tumor showing Hypocellular and hypercellular areas. Hypercellular areas show Spindle cells with focal nuclear palisading. The Hypocellular areas are loose textured and show sheets of macrophages and lymphocytes, areas of hyalinization alongwith thick walled blood vessels. Some vessels show fibrinous exudation in the wall. Impresssion being Schwannoma.

Postoperatively, patient had weakness of only Marginal mandibular and Buccal branch of Rightfacial nerve (Fig 6 & 7)There were no signs of recurrence on follow up.

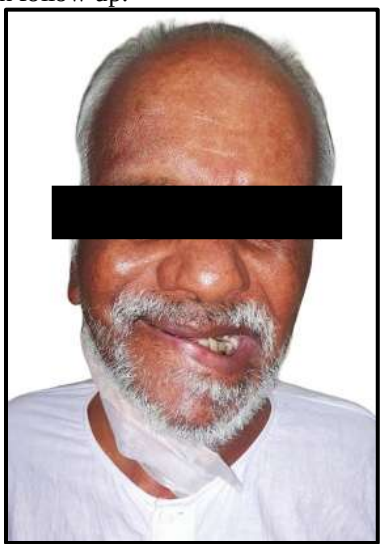

Fig (6):-

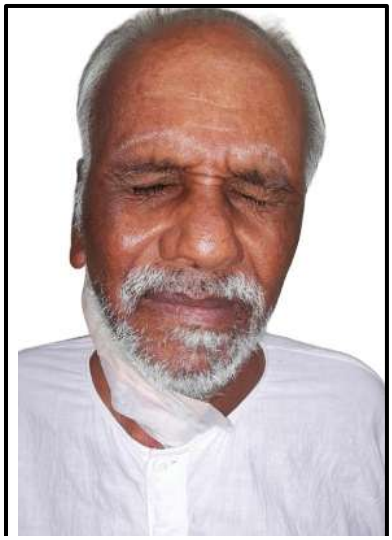

Fig (7):-

Discussion:-

Schwannoma was first described by Virchow in 1908.According to Prasad et al., it was determined that the main trunk of the facial nerve was most frequently involved in intraparotidFacial nerve Schwannoma cases (1).They are slow growing, benign tumors presenting mostly as painless slow growing parotid region swelling with no facial nerve weakness. Therefore, Facial nerve Schwannomas are difficult to diagnose pre operatively based on clinical findings. Radiological investigations are also inconclusive and the role of FNAC is inaccurate. Hence, definite diagnosis can be only made on the basis of Histopatholgy report of the sample surgically excised.

When this mass is macroscopically examined, it is yellow and rubbery. Thus it cannot be distinguished from other benign tumors(4). The most diagnostic feature of intraparotidFacial nerve Schwannoma is intraoperative difficulty in locating the facial nerve(5).

On gross examination. Schwannoma appears as a well encapsulated mass with smooth surface and on microscopic examination shows Antoni A pattern of hypercellular region with Verocay bodies and Antoni B pattern of Hypocellular region.

Intraoperatively, decision of surgical management can be made on the basis of classification given by Marchioni D. et al. He classifiedintraparotidFacial nerve Schwannomas according to the relationship with the facial nerve path into four types :

TYPE A, in which the tumor can be resected without sacrificing the facial nerve, this type of tumor rarely produces preoperative facial paralysis.

TYPE B, in which the tumor can be resected, but with a partial sacrifice of peripheral branches or distal divisions, immediate reconstruction, using either a nerve graft or direct neurorrhaphy, is required, and the prognosis is dependent on the affected branch rather than the type of reconstruction.

TYPE C, in which resection of the tumor requires the sacrifice of the trunk of the facial nerve.

TYPE D, in which tumor resection requires the sacrifice of the facial nerve trunk and at least one of the temporofacial or cervicofacial branches(6).

The decision for conservative management or surgical excision is critical in such cases since surgery is associated with the possibility of facial nerve injury in a patient with no facial weakness pre operatively. On the other hand, since definitve diagnosis is done on the basis of histopatholgy report after surgical resection, making surgery necessary.. However, because of the multicentrictumor possibility, intraoperative examination of the main trunk and all peripheral branches of the facial nerve is recommended (7). Intraoperative Frozen section can be done in case of suspicion but ultimately final diagnosis can be made only on the basis of Histopatholgy and immunohistochemistry report.

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