DOI: 10.5958/j.2319-5886.2.3.064

International Journal of Medical Research & Health Sciences

www.ijmrhs.com Volume 2 Issue 3 July - Sep Coden: IJMRHS Copyright @2013 ISSN: 2319-5886

Received: 17th Jun 2013 Revised: 4th Jul 2013 Accepted: 8th Jul 2013

Research article

INTRA-PAROTID NEUROFIBROMA OF FACIAL NERVE : A CASE REPORT

*Amit Kumar[1], Rajeev Ranjan[1], Sushil Kumar[1], Shrinivas Radder[2], Ranveer singh rana[1], Saketan Bhagat[1]

[1]Department of Surgery,[2]Department of Radiology, Rajendra Institute of Medical Sciences, Ranchi

*Correpsonding author email: drrajeevsingh1982@gmail.com

ABSTRACT

A 45-year-old male presented with a painless slowly growing mass in the region of the left parotid gland over a period of 4 years. The swelling was nontender, measuring 8cm*6cm and it was hard in consistency. Facial function was normal. At surgery, a bulky, lobular tumor was found in the parotid gland. Identification of the facial nerve was not possible and eventually the mass, which was seen to be incorporating one of the peripheral branches of the nerve, was identified as a facial nerve tumor. Due to the size and local expansion of the tumor, complete tumor resection was done. A mass measuring 8*6*4cm was excised and a superficial parotidectomy was performed. Failing to dissect the tumor from the nerve, the nerve portion involved in the tumor mass was inevitably sacrificed. Histopathologically the tumor was found to be a neurofibroma. Postoperatively, the patient suffered from an incomplete facial palsy.

Keywords: Intraparotid, Neurofibroma, Nontender Facial nerve, Superficial Parotidectomy

INDRODUCTION

Both benign and malignant tumors can affect the facial nerve[1]. It can originate from the facial nerve itself or from a contiguous structure or a metastatic disease. Actually, extrinsic tumors are far more common than intrinsic tumors Benign tumors of the nerve sheath are of 2 types: schwannoma and neurofibroma,. Intraparotid location of benign tumors of the facial nerve sheath is considered a rare event compared with intratemporal location.

CASE REPORT

A 45-year-old male presented with a painless slowly growing mass in the region of the left parotid gland over a period of 4 years. The swelling was nontender, measuring 8cm*6cm and it was hard in consistency. Facial function was normal. At surgery, a bulky, lobular tumor was found in the parotid gland(fig.1). Identification of the facial nerve was not possible and eventually the mass, which was seen to be incorporating one of the peripheral branches of the nerve, was identified as a facial nerve tumor. Due to the size and local expansion of the tumor, complete tumor resection was done. A mass measuring 8*6*4cm was excised

along with the incorporated branch of the facial nerve(fig.2 &3) and a superficial parotidectomy was performed. Failing to dissect the tumor from the nerve, the nerve portion involved in the tumor mass was inevitably sacrificed.

Histopathologically the tumor was found to be a neurofibroma(fig.4). Postoperatively, the patient suffered from an incomplete facial palsy.

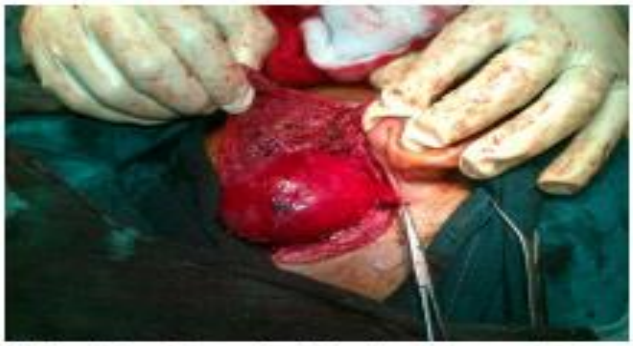

Fig.1: Artery forcep holding the incorporated branch of facial nerve

Fig.2: Excised intraparotid neurofibroma of facial nerve

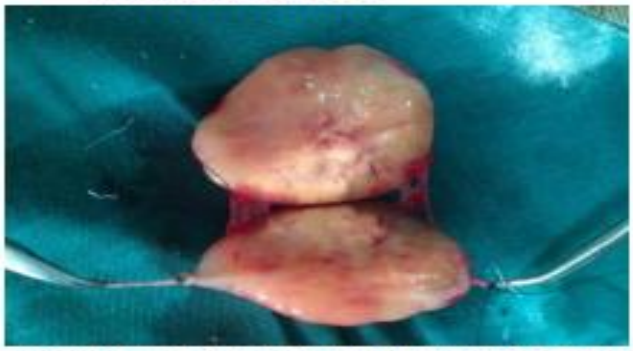

Fig.3: Cross section of neurofibroma with branch of facial nerve

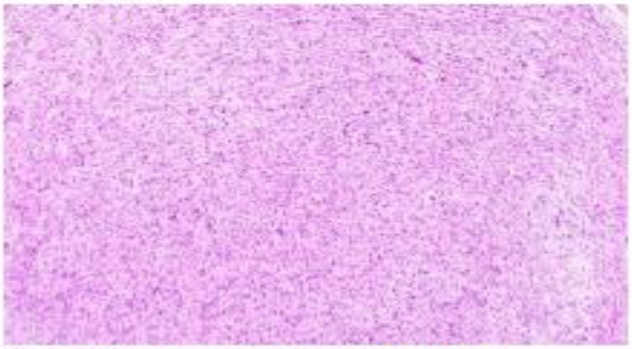

Fig.4: Spindle cells in a loosely arranged collagenous matrix

DISCUSSION

The estimated incidence of 'parotid' tumors of facial nerve origin ranges from 0.2% to 1.5% [2]. More specifically, 79 cases have been reported in the literature involving the intraparotid segment of the facial nerve[3]. The most common presenting symptom is a painless slow-growing parotid mass, while 3.9% of these tumors will finally be diagnosed as malignant[3]. Preoperative diagnosis is extremely difficult due to the variation in clinical presentation and its dependency upon the nerve site involved[4] Intraparotid facial nerve neurofibroma are quite rare by Brettau et al. Kavanaugh & Panj, and almost half of these tumors involve the main trunk of the nerve.[5-8] Such cases may present with or without pain, tenderness, facial spasm or paralysis. Our patient presented without any pain or facial weakness. Fine needle aspiration cytology is typically non-diagnostic as there is extreme difficulty in obtaining positive cytology in neurogenic neoplasms. The rarity of positive cytology may be secondary to the adhesive nature of the cells in such tumors.[7] Neurofibromas may occur most commonly as a part of the syndrome of Von Recklinghausen's disease, as solitary neurofibromas or as multiple neurofibromas without Von Recklinghausen's disease .[5,9] Grossly, neurofibroma is nonencapsulated and frequently multiple. Axons pass directly through neurofibromas. Histologically, they are characterized by relatively scant, haphazard arrangement of delicate spindle cells among a loosely textured collagenous matrix. Malignant transformation of neurofibromas is uncommon but does occur; it has been reported to be 10-15% in plexiform neurofibromas. Sarcomatous transformation is commoner in NF1 associated and deeply seated neurofibromas[5,10] Management of

neurogenic tumors of the intraparotid facial nerve is controversial. Schwannomas tend to displace nerves and thus allow for nerve preservation procedures. Neurofibromas, however, incorporate nerves and are generally resected en bloc with the involved nerve. En bloc resection with cable grafting is recommended when nerve fibres are tenuous and interspersed within the tumor capsule[6,9]. Preoperative facial nerve function is central to the treatment of benign neurogenic facial nerve neoplasms. But the rare malignant tumor require surgical removal, and every parotid mass associated with facial nerve weakness or paralysis should be biopsied. However there is controversy in the treatment of benign tumors with intact facial nerve function. Some authors state that the results with facial nerve reconstruction are better when there is no preoperative facial weakness rather than in the presence of a long standing palsy .[5] However, others recommend that resection not be performed when all clinical parameters suggest a benign neuroma: intraoperative tumor appearance, inseparability from the facial nerve, and facial movement elicited by electrical stimulation of the tumor.[11] In such cases, the option of following benign neurogenic lesions with serial electroneurography and computerized tomography appears feasible. Such an approach may be quite palatable for elderly patients who continue to have good facial function; and may have a greater opportunity to defer resection for patients in whom progressive degeneration is unlikely[5]

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