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Schwannoma of the Radial Nerve at 1st WEB Space of Right Hand: A Rare Case Report

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Abstract: ***Schwannoma is a tumour that develops from peripheral nerve sheath. The diagnosis was based on histopathological examination. Surgical removal is usually curative. Asymptomatic character of tumour and its slow evoluation remain essential factor in diagnosis delays. This tumour has a good prognosis with a low recurrence rate and potential for malignant transformation. They usually present solitary swelling along the course of nerve. However, multiple lesions may be present in case of NF-1,familial neurofibromatosis and sporadic schwannomatosis. Electomyography, MRI, Ultrasound are helpful in dignosis.IN this paper, we present a 65 year old female referred to our hospital for swelling located at 1st web space of right hand dorsal aspect mainly. Total excision was performed. Histopathological examination of mass reveal typical features of schwannoma. After 6th month follow up patient was symptom free. No any paresthesia, numbness present in course of radial nerve.***

Keywords: Schwannoma, Radial Nerve, 1st web space, Benign nerve Tumor, Rare tumor, Schwannoma Mri, Post op Schwannoma

1. Introduction

Schwannoma is most common benign tumor of peripheral nerves. It grows at expense of schwann cells of nerve sheath. It is also known as neurolemmas. Benign tumours involving peripheral nerves of upper extremity are uncommon..In upper limb, they may be mistaken for ganglia or carpel tunnel syndrome.It is an encapsulated lesion rarely causing neurological deficit and is usually extirpable.

Although they commonly appear as solitary lesions, occasionally there can be multiple lesions or associated with neurofibromatosis. The median nerve is one of the most affected peripheral nerves.

Schawannoma arising from schwann cells are usually benign tumours and comprise 0.8-2% of all hand tumors. Incidence is similar between both genders and tumour is most common in 3rd and 6th decades. The tumour is usually slowly growing and seen as a painless, asymptomatic mass for several years before diagnosed. However, it is unusual for schwannoma to exceed three centimeters in diameter. Pain, paresthesias and motor weakness may occur when tumour reaches sufficient size. Electromyography, MRI, Ultrasound is helpful in diagnosis. Surgical removal is usually curative.

2. Case report

A 65 year old woman presented with mass at 1st web space of right hand dorsal aspect mainly. On clinical examination, there was a painless solid mass approx.,5*4cm in length and depth, firmly attached to deeper structure. Pain was not severe enough to disturb sleep or hinder physical Activities. Swelling was non tender with no radiating pain. No any complaint of numbness or paresthesia noted in course of Radial nerve. No Tinel sign and phalen sign eliciated. There is no objective motor and sensory deficit. Patient reported that she first palpated a nodule 6 month ago that grew up slowly to current size. There is no any family history of neurofibromatosis and associated clinical features. Ultrasound shows 5*4cm homogenos hypoechoic lesion with minimal vascualarity s/o Benign Lesion. FNAC shows Benign spindle cell lesion. On X-ray soft tissue swelling seen no any bony involvement seen. A longitudinal incision centered over tumor bulk performed.



Figure 1: Pre-op Picture.

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Figure 2: MRI Picture

Surgical exploration brought to light an encapsulated tumor firmly attached to Radial nerve, which was easily resected. Histopatho Examination s/o Benign nerve sheath tumour-schwannoma Sheets of spindle cells with hypercellular (ANTONI A) and hypocellular(ANTONI B)area with VEROCAY BODIES. No increase in mitosis and atypia seen. Followup up to 6 months for any neurological deficit.



Figure 3: Post Operative

3. Discussion

Schwannomas are rare tumours, slowly growing, and encapsulated benign nerve sheath neoplasms separated from surrounding tissuses. Some forms may be localized within the nerve trunk or bundles of nerve fibers spreading over the surface of the tumour. They most commonly occur in adults between 20 and 50 years of age, without distinction of gender, approximate one sex ratio. They generally appear as solitary and benign lesions. Occurrence of multiple schwannomas is rare, multiple suggesting an underlying tumour predisposing syndrome and not necessarily correlate with neurofibromatosis, which demonstrates very precise chromosomal alterations. The mostly affected nerves are ulnar and median nerves. These tumours are slow growing ,sometimes painless so they may be misdiagnosed as Lipoma, fibroma, ganglion, Xanthoma. Malignant transformation of benign schwannomas is unusual. Schwannomas can be asymptomatic or can produce pain, positive Tinel's sign or Tinel's-like sensation and sensory alterations. The slow growth pattern of benign nerve tumors allows for adaptation of the nerve function to pressure effects. The slow growth and the nervous adaption to the increased volume of the tumours is often the factor responsible for the diagnostic delay. MRI can provide useful information about morphological data on Peripheral Nerve tumours; however, it cannot provide dynamic information. Although, Low intense signals on T1-weighted images and hyperintense signals on T2-weighted images are common findings of schwannoma. Surgical excision is the treatment of choice. Schwannomas are theoretically removable because they repulse fascicular groups without penetrating them, thus allowing their enucleation while preserving nerve continuity. We recommended early surgical excision to have better clinical outcome and to avoid postoperative neurological deficits. Some authors recommend excision only symptomatic tumors or those demonstrating enlargement during follow up. Careful microsurgical dissection in a bloodless field is important. Surgeon must be careful not to make unnecessary sacrifice of functionally important motor and sensory branches. This is the reason why early diagnosis is important for this type of tumor. Paresthesiais the most frequent postoperative complication. Nerve grafting may also be required in some malignant forms of these tumours.

4. Conclusion

Schwannoma are benign nerve tumours. Their diagnosis is often delayed by the absence of clinical symptoms due to the nervous adaptation to the increased volume of the tumor. Hence, the need to think about this type of tumour before any mass in the path of peripheral nerve.

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