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Case Report

Tibial Nerve Schwannoma Presenting as Lower Limb Radiculopathy-A Case Report

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ABSTRACT

Schwannomas are rare, slow-growing, benign tumours arising from Schwann cells. Less than 1% of schwannomas become malignant. Schwannomas most commonly occur in the head and neck involving the brachial plexus and spinal nerves. The upper and lower limbs are affected less often. [1] Here we report a case of a 52 yrs old female patient came with the c/o radiating pain with tingling, numbness in left lower limb which was undiagnosed for almost 8 years.MRI plain and contrast study of left lower limb revealed peripheral nerve schwannoma of tibial nerve in lower 1/3rd of leg. Surgical excision was done for the same with total resolution of symptoms.

Key words: Tibial nerve, schwannoma, radiculopathy, MRI lower limb/spine, neurofibroma

INTRODUCTION

Schwannomas are rare, slow-growing, benign tumours arising from Schwann cells. Less than 1% of schwannomas become malignant, and localization in the leg and foot is uncommon. [2] Peripheral nerve tumours are rarely the cause of radiculopathic pain in lower limbs with no obvious swelling seen or felt Most of the time the diagnosis points towards the spinal nerve compressive etiology and the diagnosis may therefore be delayed by several years .Very few cases have been reported till date about the tibial nerve schwannoma causing lower limb radiculopathy as seen in our case.

CASE REPORT

A 52yrs old female patient came with the complaints of pain in the left lower limb since 8 years. Patient complained of increase in pain since 1 year, dull aching type radiating from middle one third of leg to lateral part of the foot including 4th and 5th toes. Patient also had h/o hyperesthesia and paraesthesia in lower 1/3rd of left leg with tingling and numbness from lower aspect of left leg and lateral aspect of foot dermatome. Patient had no h/o swelling in the limb, no h/o fever, backache or weakness in the limb. She was on treatment with NSAID'S with consultation of a local doctor. Ultrasound of left lower limb was done at a peripheral hospital which showed a lump in the lower one third of leg and was then referred to our hospital.

On Examination: There was no local rise of temperature, Hyperesthesia & Paraesthesia was present over the leg, Tinel Sign was present. No any palpable swelling, No motor deficit seen.

MRI plain and contrast study of left lower limb was done which shows a well defined well capsulated oval T2 and STIR hyperintensity mass lesion noted along the tibial nerve measuring 3.3x2.2x2.3cms with intense heterogenous enhancement on contrast study suggestive of schwannoma of

left tibial nerve (fig 1 , fig 2 & fig 3). MRI brain and spine was done to rule out neurofibromas.

Following that patient subjected for surgery and resection of the tumour was done with meticulous dissection with preservation of nerve root under spinal anaesthesia. (Fig4 & Fig5). Tumor was sent for HPR and report shows- Antoni A and B cells suggesting schwannoma (fig 6)

Postoperative the patient was able to move the limb and with normal muscle power .Patient follow up was done after 15 days and the patient was ambulatory and the power grading was 5/5, with no complaints of paresthesia and pain.

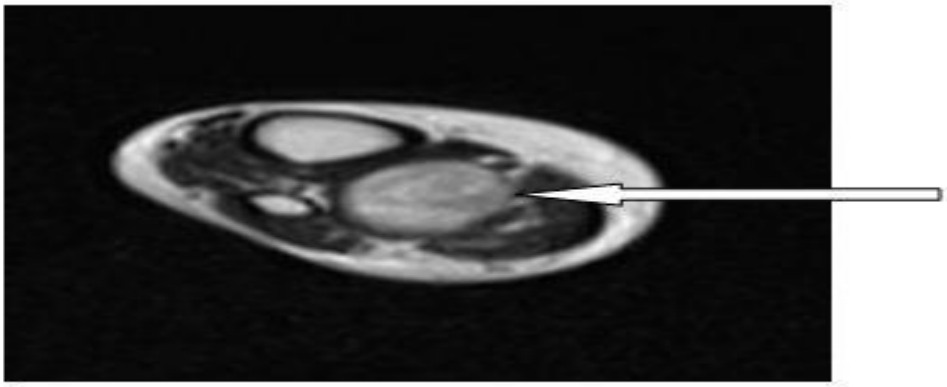

FIG 3-Axial Plain MRI showing circumscribed lesion along tibial nerve

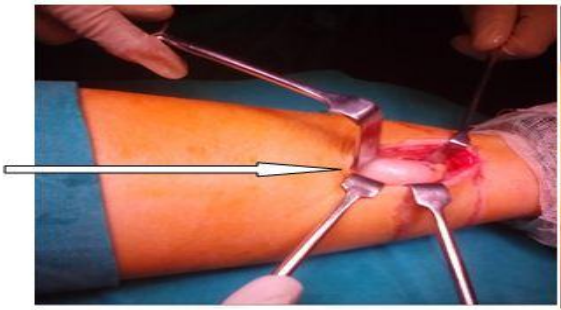

FIG 4- Intraoperative view of tibial nerve schwannoma

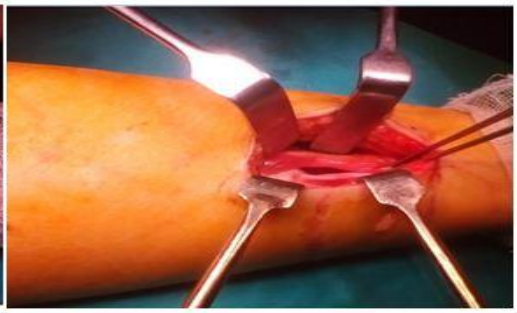

FIG 5- Intraoperative view of postexcision of schwannoma and preserved Tibial nerve

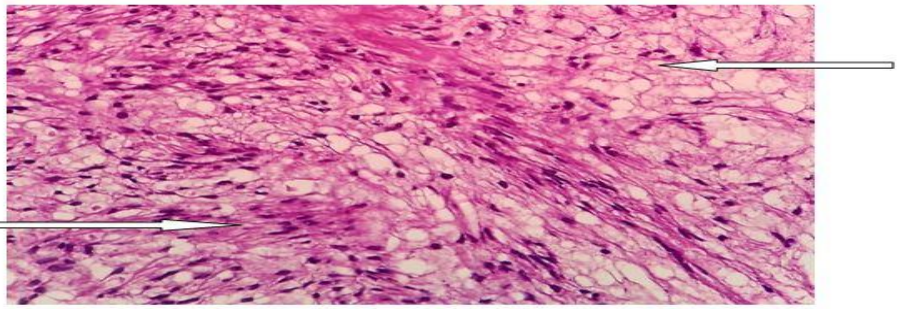

FIG 6- Antoni A and B cells suggestive of schwannoma

DISCUSSION

Schwannoma is a benign encapsulated nerve sheath tumor. It is more commonly seen in middle age with unknown cause and usually involves spinal root and peripheral nerves. Schwannomas

constitute 5% of benign soft tissue neoplasms. Schwannoma typically presents as a solitary, well capsulated, ovoid or fusiform configuration, and slow growing mass. [3] Schwannoma has been reported to be eccentrically located and does not involve the main nerve. [4] Schwannoma tends to displace the nerve fibres peripherally in contrast to neurofibromas, which grow within the nerves and penetrates them. Schwannomas most commonly occur in the head and neck involving the brachial plexus and spinal nerves. The upper and lower limbs are affected less often. D. H. Nawabi et al describe about 25 patients with a schwannoma of the posterior tibial nerve. [5] Ghaly described a patient suffering with pain in the foot for ten years before diagnosis of a schwannoma of the posterior tibial nerve in the calf. [6] Smith and Amis [7] described a patient who presented with pain in the foot for eight years before recognition of a schwannoma of the posterior tibial nerve at the ankle. The reasons for the delay in diagnosis are a deep-seated swelling may escape detection by palpation in the thigh or the calf. [6] Careful examination for a lump is therefore essential. When a lump is not palpable, a Tinel sign may be the only clue to diagnosis. Secondly, neuropathic pain expressed in the foot in the absence of a palpable lump may mislead the clinician, so that radiculopathy or entrapment neuropathy may be suspected. MRI is the investigation of choice to confirm the presence of a schwannoma and also the high resolution ultrasonography. Diagnosis can be confirmed on histopathology (H & E) but in certain cases, immunohistochemical markers like S100 protein (most important), CD34, Factor XIIIa, CD56, Ki67, neurofilament protein, calretinin etc can be used to distinguish it from neurofibroma. [8] Treatment is by excision of the tumour, with meticulous dissection to preserve the nerve roots. The prognosis of schwannoma is very favourable. Severe nerve damage or neurological deficits are uncommon because of the perineurium and the eccentric location of the tumor with respect to the involved nerve.

CONCLUSION

The possibility of unusual peripheral nerve tumour should be kept in mind in the patients presenting with chronic radiculopathic symptoms and without obvious swelling in the limbs. Early diagnosis helps the patient to have cost effective treatment and good quality of life.

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