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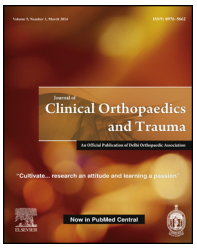

Case Report

Neurilemmoma of median nerve

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ABSTRACT

Neurilemmomas constitute one of the most common tumors of peripheral nerves. Rarer amongst them is their occurrence in median nerve in the region of arm. A sixteen-year-old female presented with painless mass in right arm which was non-tender on palpation with positive Tinel's sign and no motor or sensory deficit in the affected arm. Ultrasound examination revealed an eccentrically arising mass of size 19 × 11 mm along median nerve. MRI study revealed a mass homogenously isointense on T1 weighted images and hyperintense in T2 weighted images placed eccentrically in relation to median nerve in arm. Excisional biopsy under loupe magnification was carried out which revealed the mass to be neurilemmoma. This slowly growing benign tumor of peripheral nerves with an incidence of 5% with 14% involvement of Median nerve can be enucleated from the nerve with little or no damage. In spite of advanced imaging studies the mass cannot be differentiated preoperatively from another peripheral nerve sheath tumor neurofibroma. Both these tumors although bearing some clinical and imaging resemblance carry different intraoperative findings, histopathological features and post-operative results.

1. Introduction

Neurilemmoma is a benign peripheral nerve tumor presenting as a painless mass in the extremity causing no or very little discomfort for the patient. Though rare, benign neurilemmomas are the most common tumors of the peripheral nerves.[1,2] Differentiating from the neurofibroma is difficult preoperatively. Ultrasound and MRI if not diagnostic is helpful and suggestive in most of the cases. Treatment entails simple excision which involves meticulous dissection from the fascicles of nerve bundle using magnification. As in most of the reported cases post-operative recovery is uneventful.

2. Case report

A sixteen-year-old right hand-dominant female presented with complaint of painless mass in right arm which slowly increased in size over a one year period with tingling

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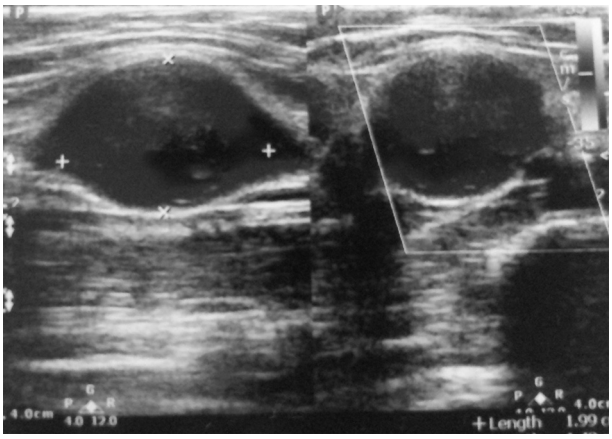

Fig. 1 – Ultrasound photograph of the tumor: hypoechoic encapsulated lesion along nerve.

sensation radiating to forearm and hand on application of pressure over the mass. On Physical examination, a firm non-tender mass was palpable in the distal one third of right arm over anteromedial aspect. Tinel's sign along the distribution of median nerve was positive on gentle tapping over the mass. Neurological examination revealed no motor or sensory deficits in median, ulnar and radial nerve distributions. Plain radiograph of right arm did not reveal any osseous or soft tissue lesion. Ultrasound examination with Multi frequency Linear probe revealed a fusiform hypoechoic well encapsulated soft tissue mass measuring 19 mm × 11 mm in continuity of median nerve along anteromedial surface of mid third arm (Fig. 1). The mass was found to be expanding the nerve in bilenticular shape, but arising eccentrically. The acoustic enhancement was noted deep to the mass. Power Doppler study was negative for intranodal or peri-nodal vascularity. MRI study revealed an eccentrically located mass anterolaterally in relation to median nerve with clearly identifiable nerve proximal and distal to the mass homogenously isointense on T1 weighted images and hyperintense in T2 weighted images (Figs. 2 and 3). A provisional diagnosis of neurilemmoma was made and written informed consent was obtained from the patient for the procedure of excision. The surgery was performed under loupe magnification. Intraoperatively the mass was present eccentrically within the epineurium of the median nerve. The epineurium was longitudinally incised and carefully the surrounding splayed fascicles were dissected free from the tumor. The tumor was enucleated free from the nerve and this was possible without dividing any fascicles (Figs. 4 and 5). A tumor of size 2.2 cm × 1.7 cm × 1.5 cm was resected. Histopathological examination confirmed the diagnosis as neurilemmoma. Postoperatively patient remained neurologically intact and made uneventful recovery.

3. Discussion

Neurilemmomas are benign nerve tumors that originate from the cells of the Schwann sheath and, thus, are also called schwannomas. It can arise from any nerve covered with a Schwann cell sheath, which include the cranial nerves (except for the optic and olfactory), the spinal nerves and the autonomic nervous system.[3] They usually occur in patients aged

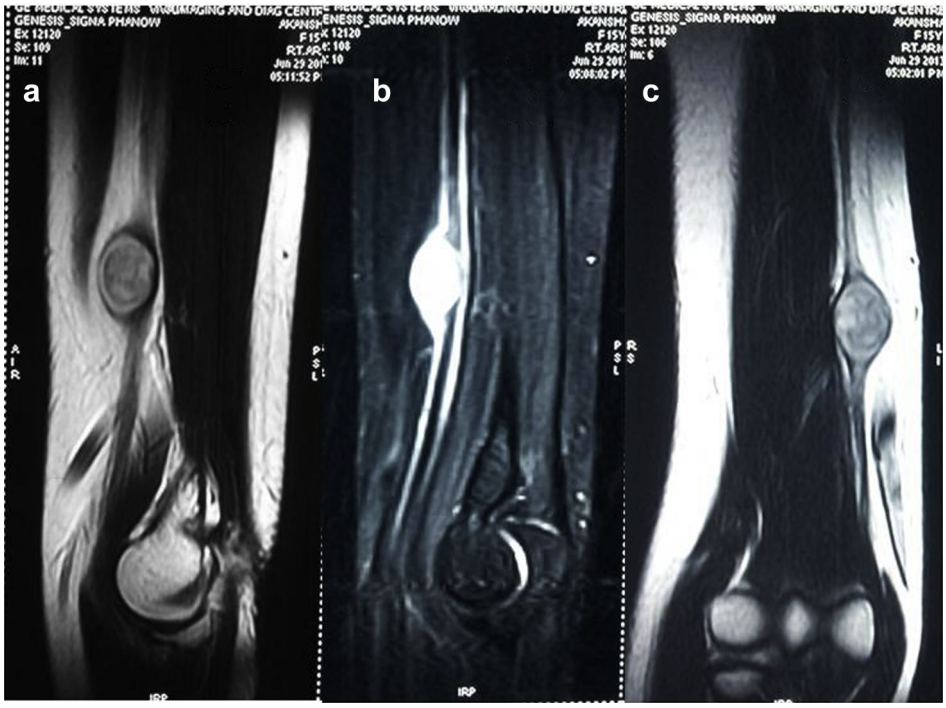

Fig. 2 – MR imaging of the nerve sheath tumor (sagittal and coronal section). a. T1 weighted image sagittal section: Isointense mass along median nerve b. T2 weighted image sagittal section: hyperintense mass along median nerve c. T1 weighted image coronal section: isointense mass along median nerve.