Case Report

Giant Schwannoma on Thenar Aspect of the Hand: A Rare Case Report

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Abstract

Schwannomas are the most common benign tumors of peripheral nerves but are rare in adults. They have an extremely slow rate of growth before the onset of symptoms such as pain, paresthesia, and tingling. Giant schwannomas of the extremities can significantly affect the quality of life. With a correct diagnosis, the tumor can be extirpated with preservation of nerve function and a very low risk of recurrence. A case of a symptomatic giant schwannoma on thenar eminence of the right hand in an adult male is discussed in this report.

Keywords: *Neurilemmoma, schwannoma, space-occupying lesion in hand, thenar eminence*

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Introduction

Schwannoma or neurilemmoma is the most common type of peripheral nerve sheath tumor arising from Schwann cells,[1,2] accounting for 5% of upper extremity tumors,[3] and is usually seen in the third to sixth decades of life. These benign, encapsulated, slow-growing tumors rarely transform into malignancy. Nearly 90% of these tumors are sporadic and the rest are associated with neurofibromatosis Type 1 and 2.[4] Differentials include ganglion cyst, giant cell tumor of tendon sheath, leiomyoma, neurofibroma, and carpal tunnel syndrome.[4,5] Here, we report a case of symptomatic thenar eminence giant schwannoma of size 80 mm.

Case Report

A 42-year-old male farmer from the rural outskirts of Ranchi, Jharkhand, presented to the general surgery outpatient department of our hospital with the complaint of a painless swelling in the right palm for the past 2 years [Figure 1]. The gradually increasing size of the swelling associated with numbness and tingling sensation in the right hand for 2 months before presentation prompted him to seek medical advice. The patient did not have any other complaints and could not recall any incident of trauma to the site of the swelling prior to its onset. There was no history of restriction of movement of the right wrist joint and fingers. He was a habitual tobacco chewer for 10 years. There was no history of such a presentation in any other family members.

On examination, a swelling of approximate size 5 cm × 3 cm was palpated in the thenar eminence of the right hand in between the first and second metacarpals, having smooth lobulated surface, well-defined margins, and soft consistency. The swelling was nontender, nonpulsatile, not fixed to the skin or underlying structures, and fluctuation was absent. It could not be compressed, and Tinel's sign was positive. There was no other similar swelling in the body. General examination of the patient was unremarkable.

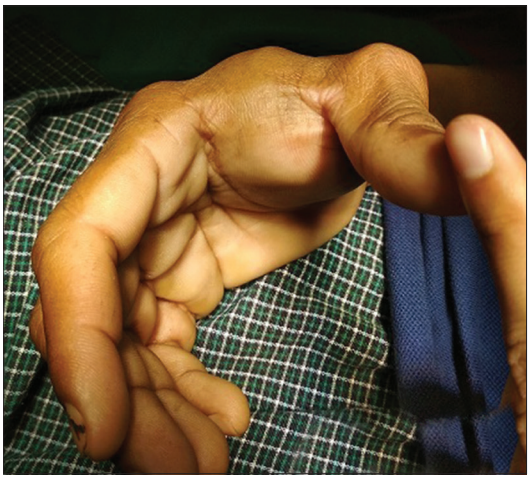

Figure 1: Swelling on the thenar aspect of the right palm

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Magnetic resonance imaging (MRI) of the hand and wrist revealed a well-defined, sharply demarcated, heterogeneously hyperintense lesion of size 6 cm × 3 cm on proton density and T2-weighted images and hypointense on T1-weighted seen along the thenar eminence of the right hand with widening of space between the first and second metacarpals suggestive of a space-occupying lesion (SOL) in the hand with a benign pathology [Figure 2]. Fine-needle aspiration cytology of the swelling was sought and reported inflammatory cells against a necrotic background.

On clinical and investigational grounds, total excision of the lesion was decided. Under regional anesthesia with wrist block using 2% lignocaine, a 3-cm-long incision was made 1 cm proximal to the thenar crease and extended to 5 cm on the dorsal surface in the first web space. After careful dissection and identification of the digital nerve and vessels, an 8.0 cm × 2.5 cm × 2.5 cm lobulated mass was seen to be arising from a digital nerve in the thenar eminence, which was excised in toto via blunt dissection [Figure 3a and b]. The postoperative recovery was uneventful, and the patient was discharged from the hospital after 7 days of inpatient observation.

Histopathological examination of the excised specimen revealed an encapsulated lesion consisting of spindle cells in alternating hypercellular (Antoni A) and myxoid hypocellular (Antoni B) areas. Focal nuclear regimentation with hyaline changes was seen with no evidence of malignancy suggestive of a neurilemmoma/schwannoma. Immunohistochemical study could not be performed because of its unavailability in our facility.

At 3rd-week follow-up visit, the patient seemed to have recovered well. The wound was healed properly, and there was no complaint of paresthesia or any evidence of recurrence [Figure 4].

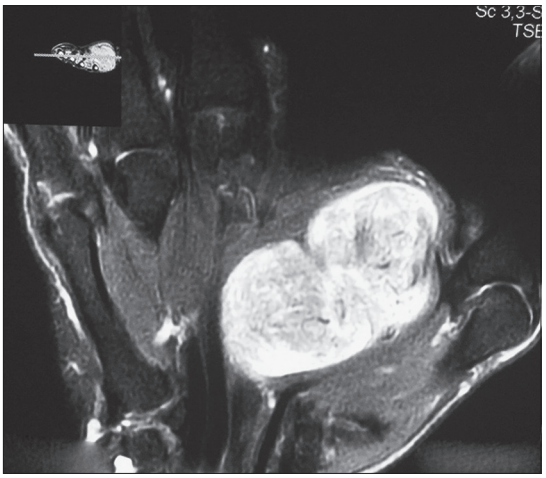

Figure 2: Magnetic resonance imaging (T2-weighted) showing a well-defined, sharply demarcated, heterogeneously hyperintense lesion

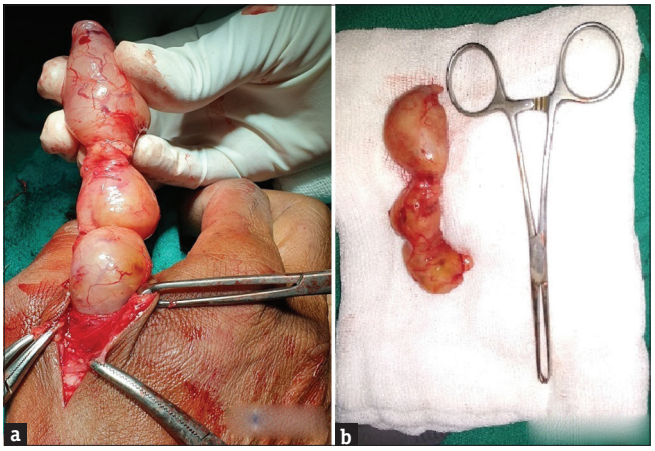

Figure 3: (a) Intraoperative view of the lesion while dissection. (b) Specimen after complete excision

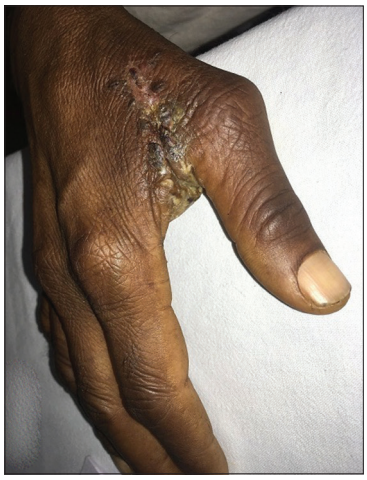

Figure 4: Image of the right hand after 3 weeks of surgical excision of the space-occupying lesion

Discussion

Schwannomas are rare tumors, and their preoperative diagnosis is often difficult.[6-8] A differential diagnosis of schwannoma must always be kept in mind when dealing with soft-tissue swellings in the extremities. These can be large swellings affecting the quality of life of the patient significantly. Long-standing cases may transform rarely into malignant peripheral nerve sheath tumor, angiosarcoma, or epithelioid malignancy.[4] Our patient sought medical advice owing to the tingling and numbness arising due to mass effect of the swelling. MRI and ultrasound (US) are useful investigations in such cases. Schwannomas are usually solitary tumors, which show low-intensity signals in T1-weighted and high-intensity signals in T2-weighted images.[9] They present as a lobulated, encapsulated, and highly vascularized mass on US. In our case, MRI could delineate a benign SOL amenable for surgical resection. The treatment of choice is total

excision in which care should be taken not to damage the digital nerves and vessels. Schwannomas usually do not infiltrate the parent nerve and in our case, the tumor could be easily separated from the nerve. The most common postoperative complication is reported to be paresthesia,[5] which was never complained by our patient. The largest size of schwannoma of hand reported till date is of 3.1 cm × 5.1 cm.[5] A similar sized swelling was also reported by Sando *et al*. in an infant.[10] The present case is probably of the largest sized schwannoma of hand reported till date, which was completely cured by surgical intervention.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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