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Giant Schwannoma of the First Metatarsal: A Rare Entity

Mohammed Tahir Ansari, MS, MRCS [1], Shishir Rastogi, MS [2], Shah Alam Khan, MS, FRCS, MCh [3], Chandershekhar Yadav, MS [3], Laxman Rijal, MS [4]

[1] *Assistant Professor of Orthopaedics, Department of Emergency Medicine, All India Institute of Medical Sciences, New Delhi, India*
[2] *Professor, Department of Orthopaedics, All India Institute of Medical Sciences, New Delhi, India*
[3] *Additional Professor, Department of Orthopaedics, All India Institute of Medical Sciences, New Delhi, India*
[4] *Orthopaedic Surgeon, Department of Orthopaedics, Civil Service Hospital, Kathmandu, Nepal*

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ABSTRACT

Schwannomas of osseous origin are rare, and schwannomas of the short tubular bones are even rarer. These benign-looking tumors are difficult to diagnose using imaging alone. However, histopathologic evaluation of a biopsy specimen can establish the diagnosis by identifying Antoni type A and B zones. Curettage and bone grafting will probably be adequate for treatment because malignant changes are unlikely. Large lesions can require en bloc excision and reconstruction. We describe what appears to be only the second case of a schwannoma in the first metatarsal of the foot in a 48-year-old woman. The lesion was poorly contained, with obvious breaks in the cortical shell. The diagnosis was confirmed by pathologic analysis. The lesion was successfully treated with en bloc resection and reconstruction with a nonvascularized fibular graft.

Schwannoma, also known as a neurilemmoma, is a benign tumor arising from the sheath of myelinated nerve fibers that can occur anywhere in the body (1). Most osseous Schwannomas occur in the facial bones, mandible, maxilla, nasal bone, or facial sinuses (2). Few cases of this nerve sheath tumor have been reported in the long bones (3–11). Even more rare have been those involving the short tubular bones (12). We have described a Schwannoma of the first metatarsal that had eroded the entire first metatarsal by the time of presentation.

Case Report

A 48-year-old female presented to our hospital and reported a 9-year history of swelling in her right foot. The swelling had been small in the beginning but had gradually increased over the years. Our female patient lived in a rural area and did not seek medical attention until the swelling had suddenly increased in size and a dull aching pain had developed over the dorsum of the foot about 1 year before presentation. The swollen area was 7 × 6 cm and had spread over the dorsomedial aspect of the foot, extending from 3 cm distal to the ankle to the first metatarsophalangeal joint. The mass was hard and moderately tender, and the underlying skin was not adherent to the

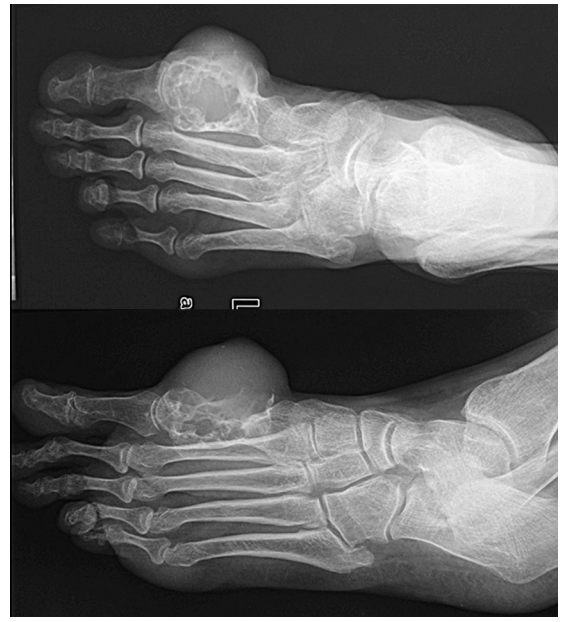

Fig. 1. Anteroposterior and oblique radiographic views of the foot showing an expansile, osteolytic benign lesion involving the first metatarsal.

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Address correspondence to: Mohammed Tahir Ansari, MS, MRCS, Assistant Professor, Department of Emergency Medicine, All India Institute of Medical Sciences, New Delhi, India.
E-mail address: drtahir.ansari@gmail.com (M.T. Ansari).

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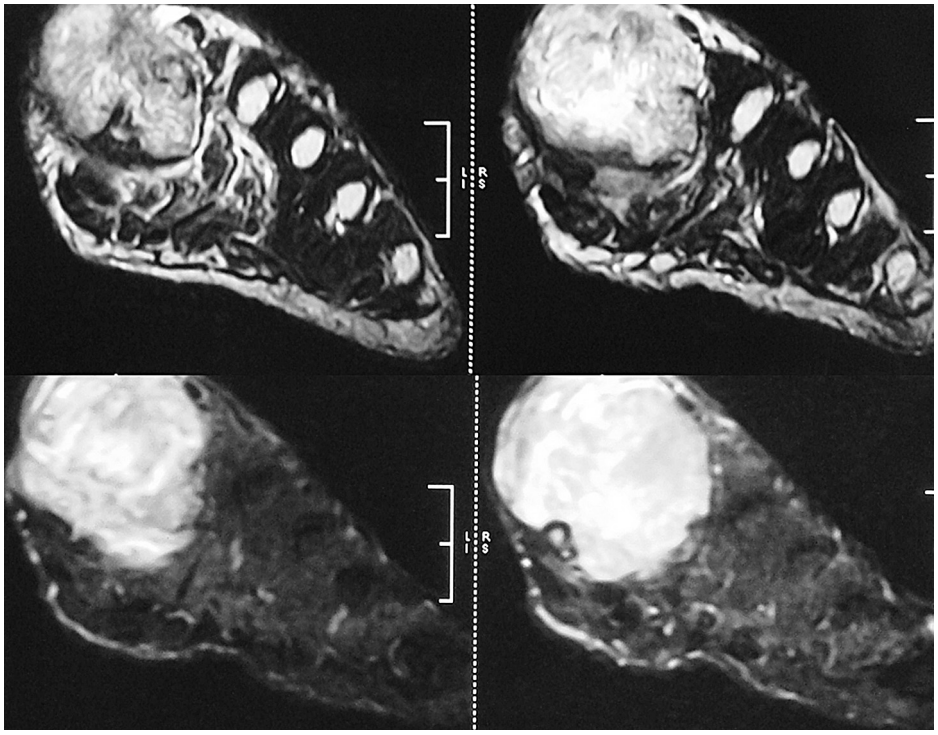

Fig. 2. T_1- and T_2-weighted axial magnetic resonance images of the foot showing the lesion.

tumor. The local temperature was normal. She reported no other similar lumps or tumors elsewhere.

A biplane radiograph of the right foot showed a well-delineated, expansile, lytic, globular, and trabeculated lesion (Fig. 1). An expansile and heterogeneous isointense lesion involving the first metatarsal was apparent on T_1-weighted magnetic resonance imaging (MRI). The lesion appeared to be heterogeneous and hyperintense on T_2-weighted MRI scans, with little break in the dorsal cortex (Figs. 2 and 3). Histopathologic examination of a core biopsy specimen revealed some areas of fusiform cells, with elongated, ovoid nuclei in the form of a palisade that gave off an interstitial substance to form the Verocay bodies (Antoni type A zones) and other areas of irregular cells with a

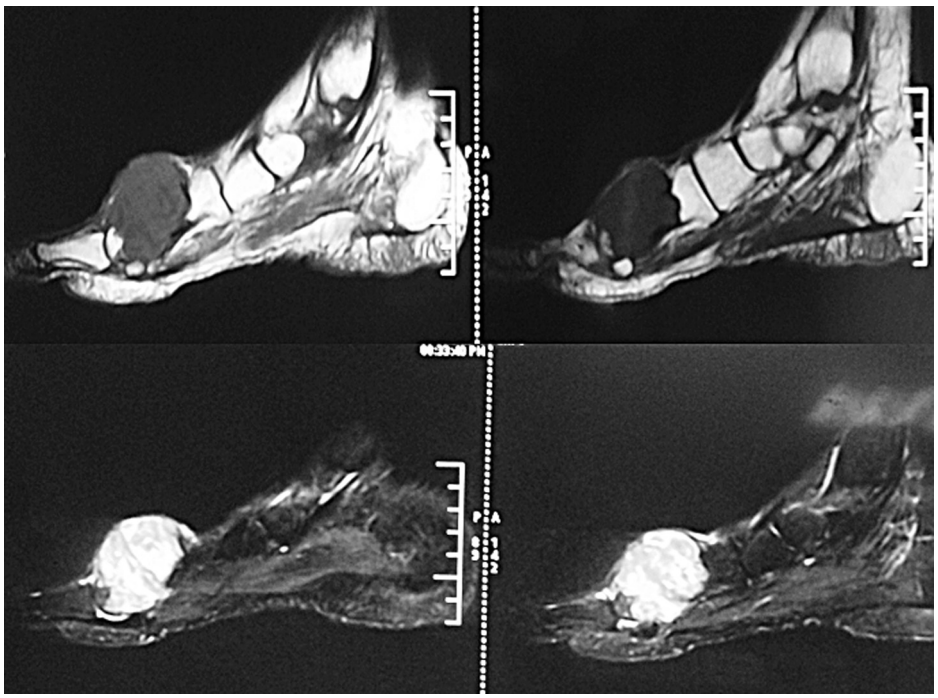

Fig. 3. T_1- and T_2-weighted sagittal magnetic resonance images of the foot showing the lesion.