

Osteomyelitis Calcaneum due to a Scorpion Sting

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ABSTRACT

Children are susceptible to various injuries, including insect bites, and scorpion bites are common in the lower extremity of children in Middle East countries. In most cases, the sting will produce just a local reaction; however, serious complications that can result in death have occurred. In this case report, we describe a case of osteomyelitis of the calcaneum after a scorpion sting.

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Scorpion stings are common in the tropical and subtropical countries and more common in the rural areas of Middle East countries (1,2). Osteomyelitis of the calcaneum can occur from blood stream spread or direct inoculation of the bacteria from a puncture wound (3). The incidence of calcaneal osteomyelitis in children has been 7% to 8%, with most cases due to hematogenous spread (3). Although trauma has been reported as a predisposing factor for acute hematogenous osteomyelitis, we believe the scorpion sting triggered the infection in our patient (3).

Case Report

A 9-year-old male presented to the orthopedic clinic with a painful right heel and difficulty in putting load on the right leg. Three weeks before to his visit to us, he had been seen in the emergency department with a scorpion sting to the right heel on the medial aspect. Because he had not been experiencing any systemic effects from the envenomation, he was discharged home on analgesics and oral tablets of amoxicillin and clavulanate 3 times a day for 2 weeks (Gloclav 375 USP, Global Pharma, Dubai, United Arab Emirates). On his presentation to us, he was unable to bear weight on his right foot. Radiographs

showed a lytic lesion in the posterior plantar aspect of the right calcaneum (Fig. 1).

The boy recollected the site of the sting, the mark of which was present at his visit to us (Fig. 2). The erythrocyte sedimentation rate was 83 mm fall in the first hour. The results of the C-reactive protein and other blood investigations were normal.

A well-defined lytic lesion was present in the posterior part of the right calcaneum on the computed tomography scan (Fig. 3), with a narrow zone of transition without any cortical breakthrough. No soft tissue component was seen.



Fig. 1. Lateral radiographs of both feet showing the lytic lesion (arrow).

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Conflict of Interest: None reported.

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Fig. 2. Clinical photograph showing the sting mark (*arrow*) on the right foot.



Fig. 4. Perioperative photograph showing the window created in the medial wall of the mass.

The patient underwent surgery under general anesthesia, and the lesion was approached through a cortical window. Pale brown granulation tissue was curetted out of the calcaneus (*Fig. 4*).

Gram staining was negative for bacteria, and the Ziehl-Neelsen stain was negative for acid fast bacilli. Bacterial culture (both aerobic and anaerobic) of the tissue was negative for organisms. The tissue was also negative for fungus. The patient was kept non-weightbearing for 3 weeks in a plaster of Paris cast, with axillary crutch walking.

Histologic examination showed sections with bony trabeculae with marrow spaces showing dense infiltration by lymphoplasmacytic cells admixed with polymorphs. The periodic acid-Schiff stain was negative for fungus. The study results were consistent with osteomyelitis (*Fig. 5*).

We continued the antibiotic coverage for another 3 weeks, with Gloclav 375 mg 3 times daily (amoxicillin and clavulanate USP 375 mg, Global Pharma), although the culture findings were negative.

At 1 year of follow-up, the lesion had completely resolved, and our patient was as active as before the sting. However, mild irregularity of the calcaneal tuberosity was present (*Figs. 6 to 8*).

Discussion

Injuries due to scorpion stings are common in Middle East countries. In our case, the sting was from a type of scorpion, as recollected

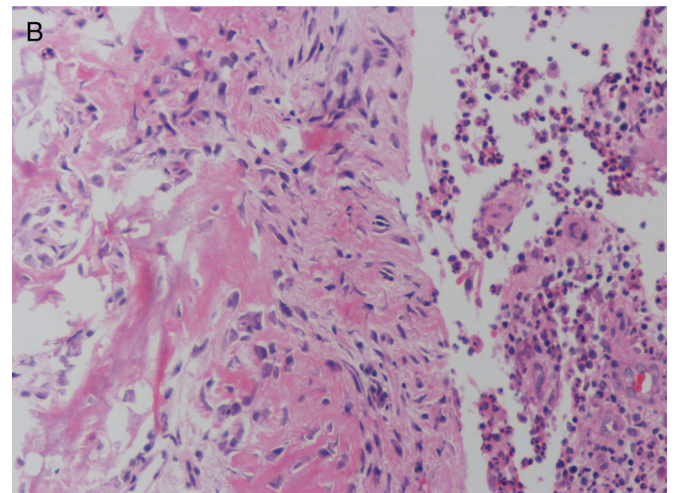
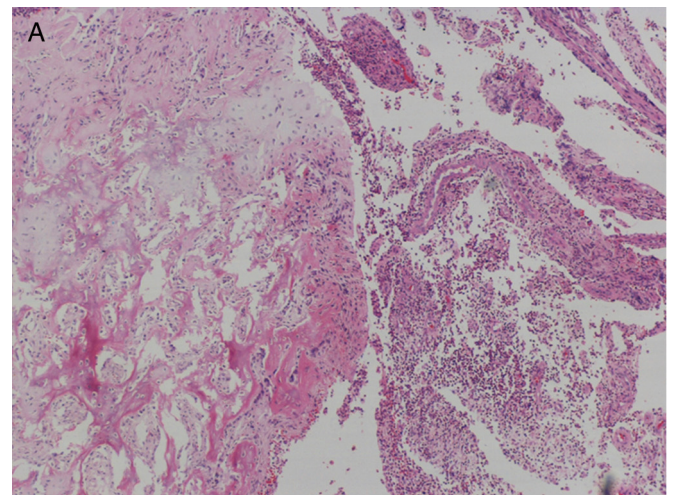


Fig. 5. (A) Low power view of hematoxylin and eosin stain showing the bony trabeculae and inflammatory cells. (B) High power view showing the bony trabeculae and inflammatory cells.



Fig. 3. Axial computed tomography scan showing the lytic lesion (*arrow*) without intralesional calcifications and an intact cortex.

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