Tuberculosis of talus and cuboid—a report of 2 children

Firoz A Khan, Khalid Khoshhal and Munir Saadeddin

Department of Orthopaedics, College of Medicine and King Khalid University Hospital, PO Box 2925, Riyadh 11461, Saudi Arabia. Fax +966 1 467 9436
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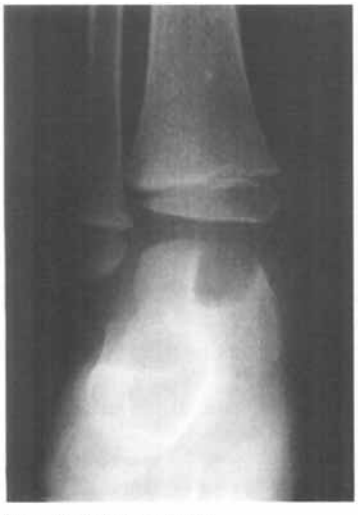
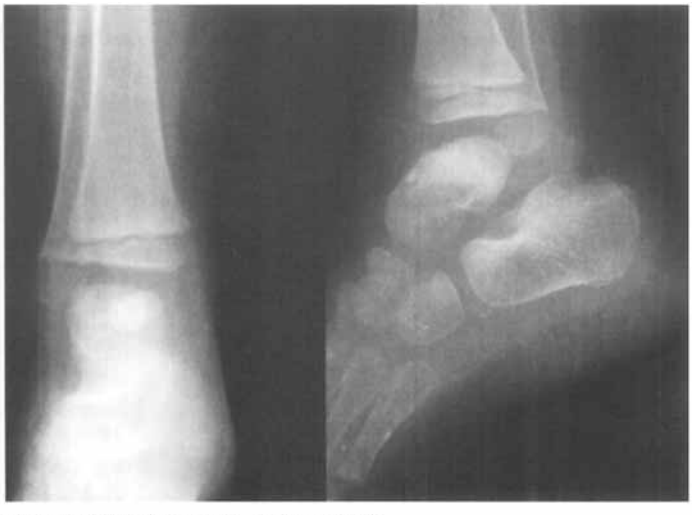
Case 1

A 5-year-old Saudi boy was referred to our hospital because of a cystic lesion in the right talus. He had mild pain in the ankle and had limped for 6 weeks. A slightly tender swelling was found on the anteromedial aspect of the ankle and movements were mildly painful. The child was otherwise healthy with no other symptoms. The white cell count was 7.3 × 10/L and sedimentation rate 12 mm/hour. The Mantoux test was negative and Brucella titer was normal. Radiographs including CT demonstrated a cystic lesion occupying the body and neck of the talus. Chest radiographs were normal. The cystic lesion was provisionally diagnosed as an aneurysmal bone cyst. The neck of the talus was exposed between the extensor hallucis longus and extensor digitorum longus. On incising the capsule and synovial membrane of the ankle, seropurulent fluid came out of an opening in the neck of the talus. The opening communicated with the cystic cavity in the talus. A pus swab for bacterial culture was taken and the cavity was curetted and washed with antiseptic solution. Pieces of the synovial membrane and bone were sent for histological examination. The wound was closed over a suction drain. The pus culture did not grow any pyogenic bacteria. The histopathology report showed granulomatous inflammatory tissue with numerous multinucleated giant cells suggesting the diagnosis of tuberculosis. The patient was treated with antituberculosis chemotherapy consisting of isoniazid, pyrazinamide and rifampicin.

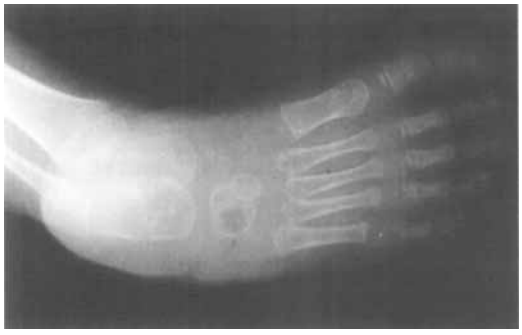
Since the large cyst was present in an important weight bearing bone, the patient was reoperated on 6 weeks after the initial exploration, and the cystic cavity in the talus was thoroughly curetted and packed with match-stick fibular cortical bone grafts. The limb was immobilized in a below-knee plaster cast for 6 weeks. At 3 months, the cyst had healed and ankle movements were pain-free. Rifampicin was given for 6 months, while isoniazid and pyrazinamide were given for 12 months. At the 1-year follow-up, the boy had no symptoms and the cyst had not recurred.



Case 1. Before surgery.



Healed cystic lesion 1 year postoperatively.



Case 2. Cystic lesion in the cuboid bone.

Case 2

A 1 year 10-month-old Pakistani girl was admitted to our hospital with pain and swelling along the anterolateral aspect of the right foot for 4 weeks. She had a fever of 38° and had been treated with flucloxacillin for 10 days by her general practitioner. She had a firm, tender, slightly warm swelling overlying the cuboid bone. The white cell count was 14 x 10/L and the sedimentation rate 25 mm/hour. The Mantoux test was negative and the Brucella titer was normal. Radiographs of her right foot showed an osteolytic lesion in the cuboid bone and the isotope bone scan showed increased tracer uptake in the cuboid bone. Chest radiographs were normal.

A pyogenic bone infection was suspected. Surgical exploration of the swelling demonstrated a seropurulent fluid coming out of the cuboid bone. A pus swab for bacterial culture was taken and the bone cavity was curetted to healthy bone and washed with antiseptic solution. The curetted bone and granulation tissue were sent for histopathological examination. The foot was immobilized in a below-knee plaster cast for 6 weeks. The swab culture grew no organism; the histopathology report showed marked chronic inflammatory cells with multiple epithelioid granulomas with focal necrosis and multinucleated giant cells favoring the diagnosis of tuberculosis. The child was given antituberculosis chemotherapy similar to the first case. Within 3 months, she became asymptomatic with radiographic healing of the osteolytic lesion. At the 1-year follow-up, the child was symptom-free and the osteolytic lesion in the cuboid healed.

Discussion

There has been a decline in the incidence of bone and joint tuberculosis in the developed world, but it is still one of the chief causes of death and crippling in many countries (WHO 1991). Because of the rarity of tuberculosis in the developed world, clinicians often do not consider this disease in the differential diagnosis of bony lesions. The cases are therefore usually misdiagnosed and the diagnosis is commonly delayed.

The spine is the site of skeletal involvement in about 50% of the patients (Poppel et al. 1953, Rahman et al. 1987, Abdelwahab et al. 1988). Tuberculosis of tarsal bones is extremely rare (Ediken et al. 1963, O'Connor et al. 1970, Anderson et al. 1979, Nielsen et al. 1989, Jockheck et al. 1992). Considering the atypical presentation and normal chemistries, it is difficult to make the diagnosis on clinical grounds (Versfeld and Solomon 1982). Tuberculosis should be considered in the differential diagnosis of a cystic lesion of bone with poorly defined edges and minimal surrounding sclerosis. A normal sedimentation rate and negative Mantoux test do not exclude tuberculosis. Exploration and biopsy of the cystic lesion are essential to establish the diagnosis.

Adequate debridement and curettage of the cystic lesion followed by antituberculous chemotherapy for 1 year is usually adequate treatment (Rasool et al. 1994). The response to the treatment is dramatic and significant radiographic improvement may occur as early as 8–12 weeks. Bonegrafting may be of value (Arlet et al 1987, Kumar and Saxena 1988, Freiberg et al 1994, Khan 1995).

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