XDR TB presenting as a transphyseal lytic lesion in the proximal tibia

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DESCRIPTION

A 5-year-old child presented with pain, swelling and a discharging sinus below the right knee for 6 weeks. Physical examination revealed fluctuant swelling in the anterior aspect of the proximal tibia with a discharging sinus. Inguinal lymph nodes were enlarged. Radiographs revealed a well-defined transphyseal lytic lesion in the proximal tibia involving metaphysis, physis and epiphysis (figure 1). MRI showed the lesion to be cystic and filled with pus, with a breach in the anterior cortex (figure 2A, B). Core biopsy was performed. Histopathology showed caseous necrosis with Langhans giant cells, suggestive of tuberculosis. Culture and sensitivity testing revealed that the mycobacterium TB was resistant to all the first-line drugs, ofloxacin, moxifloxacin and capreomycin and susceptible to amikacin, clofazimine, kanamycin and PAS. The patient was started on kanamycin (15 mg/kg/day), PAS (200 mg/kg/day), cycloserine (15 mg/kg/day), in two divided doses, and clofazimine 50 mg single oral dose. At 5 months following the treatment, the patient had complete relief of pain, and the sinus and breach in the anterior cortex had healed. Chemotherapy will be continued for 2 years.

In children aged 2 years and above, the physis effectively acts as a barrier to the spread of metaphyseal abscess.¹ Transphyseal spread of infection is rare and may occur in tuberculosis.² Culture often shows drug resistant strains, hence a Trucut biopsy for confirmation of diagnosis and culture, along with sensitivity testing, must be performed at the earliest.² Surgical debridement in children may cause injury to the physis and epiphysis, thus chemotherapy with sensitive drugs should be the primary line of treatment, and surgery must be reserved for cases unresponsive to chemotherapy.

Figure 1 Anteroposterior and lateral radiographs showing a lytic lesion in the proximal tibia. The lesion is well defined, involving the metaphysis, physis and epiphysis (transphyseal).

Figure 2 (A) Coronal MRI shows an abscess in the proximal tibia involving the metaphysis, and crossing the physis to involve the epiphysis. Intensity changes are also seen in the diaphysis. The joint appears to be uninvolved. (B) Sagittal MRI shows a breach in the anterior wall of the abscess with extravasation of pus.

Learning points

- ▶ Tuberculosis must be considered as one of the differentials in children with transphyseal lytic lesions, especially in regions where tuberculosis is endemic.
- ▶ Culture and sensitivity testing must be carried out in patients with uncommon presentation of tuberculosis. It may turn out to be primary multidrug-resistant or extensively drug-resistant tuberculosis.

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