A case of metatarsal Ewing's sarcoma

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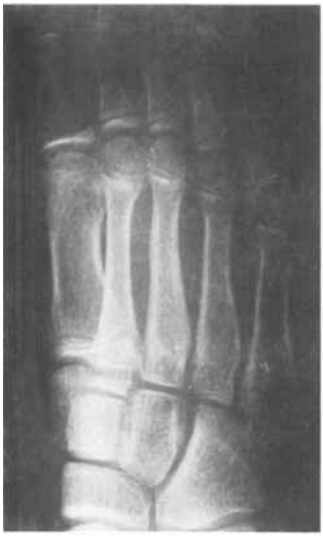
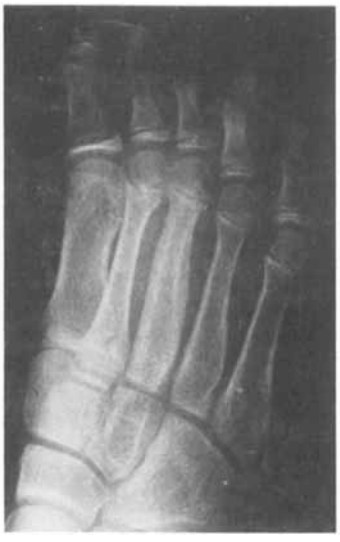
Case report

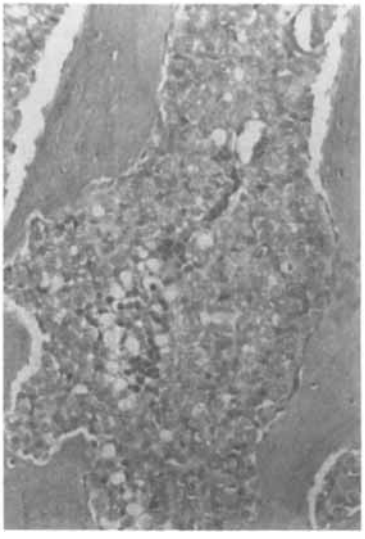
A fit 10-year-old girl attended our accident department with a tender, swollen right foot. She described an injury to the foot while playing soccer 4 weeks previously. A radiograph showed cortical thickening in the diaphysis of the third metatarsal, which was interpreted as a healing fracture. A below-the-knee cast was applied for 3 weeks. One month later, she complained once more of pain. Further radiographs showed a periosteal reaction suggestive of a chronic infection. A full blood count, erythrocyte sedimentation rate, and a chest radiograph were normal. A whole-body isotope scan showed a solitary area of increased uptake in the third metatarsal. An open biopsy was performed. There was no soft-tissue involvement macroscopically, but the cortex was thickened throughout the mid metatarsal. A window was cut exposing the medullary cavity through which granulation-type tissue and clear yellowish fluid were seen. A number of specimens were sent for histologic and microbiologic assessment. Cultures proved negative, and the histologic opinion varied between Ewing's sarcoma, metastatic neuroblastoma, and a healing fracture. A repeat biopsy was unequivocally reported as Ewing's sarcoma (Figure 1).



First examination. Cortical thickening of the third metatarsal.



Two months later. Marked periosteal reaction.



The second biopsy showing typical Ewing's sarcoma.

Figure 1. A 10-year-old girl with Ewing's sarcoma of the right third metatarsal.

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Discussion

The incidence of Ewing's sarcoma in the foot ranges from 1 to 4 percent (Shirley et al. 1985). Sandrasagra (1973) reviewed 433 cases of Ewing's sarcoma, and only 2 involved the metatarsal.

In a study of 156 cases including 3 of the foot, Vohra (1967) described the wide variation of the radiographic appearances of Ewing's sarcoma and the similarity in appearance to osteomyelitis, osteogenic sarcoma, and metastatic deposits.

Histologic interpretation requires experience. The difficult distinction is between Ewing's sarcoma and metastatic neuroblastoma, chronic osteomyelitis, and reticulum cell sarcoma (Falk and Alpert 1965, Tesoro and Nessi 1980).

Acknowledgement

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