Case 1176

Eurorad

Recurrent bony foot lesion

Published on 08.08.2001

DOI: 10.1594/EURORAD/CASE.1176
ISSN: 1563-4086
Section: Musculoskeletal system
Case Type: Clinical Cases
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Patient: 49 years, male

Clinical History:

Previously had lesion excised 4 years earlier now presents with recurring foot pain. On examination there was some limitation of movement of the 1st metatarsophalangeal joint and this caused pain on movement. On removal of lesion it had the characteristic 'candle drippings' appearance. Otherwise he is fit and well.

Imaging Findings:

A 49 year old man presented with increasing pain in the right foot. He had no past history of trauma to the affected foot. Previously he had had a bony exostosis excised from the 1st and 2nd interray space four years earlier. On examination there was some limitation of movement of the 1st metatarsophalangeal joint and this caused pain on movement. Radiographs of the foot showed an irregular enlargement of the lateral cortex of the 1st metatarsal extending into the interray space. At operation the lesion was approached anteriorly through the forefoot. The tissues surrounding the lesion were completely separate and had been displaced laterally. The lesion was removed whole using a bone chisel. It had the characteristic 'candle drippings' appearance. Post operatively he was fully mobile and pain free at two weeks.

Discussion:

Melorheostosis comes from the Greek melos = limb and rheos = flow. It is a rare benign non-genetic developmental anomaly affecting bone, having first been described by Leri in 1922. It is distinguished from other ordinary 'marble bones' because of the changes being confined eccentrically to one limb, and the outline of the affected bone being often grossly distorted. Bone destruction is never seen. Pain and limitation of movement of the affected joints are however seen. Occasionally the lesion has been associated with deformity of the affected bone, usually the long bones of the lower limb. The working group on bone dysplasias groups it together with other bone dysplasias as a mixed sclerosing dysplasia. This is because its abnormal sclerosing is caused by a disturbance of both the endochondral and intramembraneous ossification. It has been seen in association with other sclerosing dysplasias such as osteopoikilosis and osteopathia striata as well as tumours or malformation of blood vessels or lymphatics (Greenspan & Azouz, 1999). The aetiology is unknown but it has been suggested that it is due to an overloading of the bone (Moore and DeLorimher, 1933), a local disorder of osteogenesis (Hall, 1943), or even fibrosis of the bone marrow (Fairbank, 1951). More recently it has been suggested that it is a postnatal peripheral neuropathy affecting segmental spinal sensory nerves in a fashion like herpes zoster because of its sclerotome distribution (Morris, 1963). Sclerotomes are zones of skeletal bone supplied by individual sensory nerves. Radiologically it can take several appearances osteoma like, classic candle wax appearance, myositis ossificans like, osteopathia striata like or a mixed pattern (Freyschmidt, 2001). Clinically deformity or swelling may be present and the patient often complains of rheumaticky type pain. It more commonly affects the lower limbs but can affect any bone. Occasionally chronic arthritis has been associated with the affected joint and movement may be limited. In some cases there was an indefinite complaint of progressive muscular weakness. Histology is often unhelpful, as microscopic and histological findings are non-specific. In adults the lesion progresses slowly however in children an accelerated progression is seen. There is no specific treatment for this condition and multiple excisions are often required. In

extreme cases amputation of the affected limb was required.
Differential Diagnosis List: Melorheostosis

Final Diagnosis: Melorheostosis

References:

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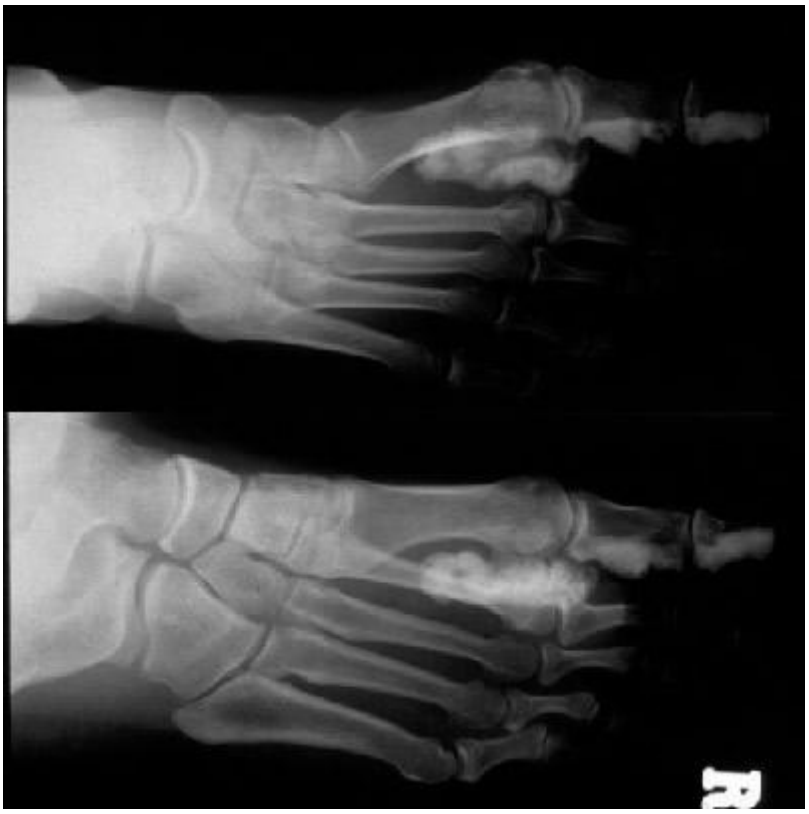
Figure 1

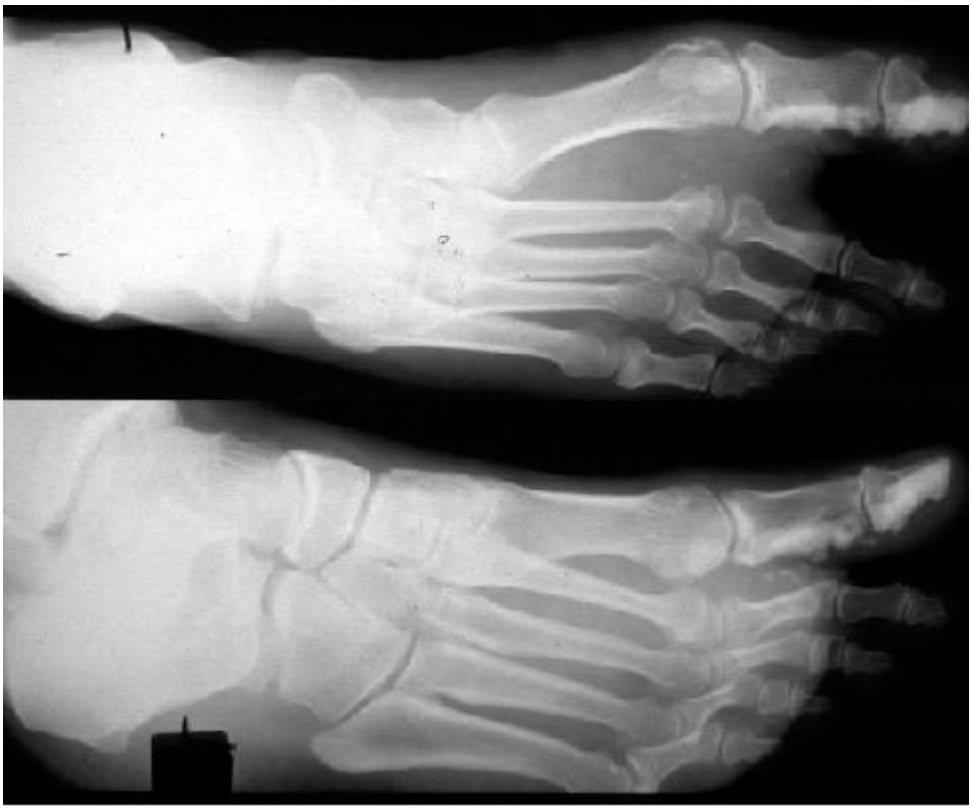
a



Description: Lesion seen to be extending from the lateral cortex of the 1st metatarasal. **Origin:**

Figure 2

a



Description: The lesion is no longer present. **Origin:**