EMERGENCY CASEBOOK

A cause for concern? Osteopoikilosis found incidentally in the emergency department: a case report

Matthew Bull, Phil Calderbank, Navin Ramachandran

Emerg Med J 2007;24:e29 (<http://www.emjonline.com/cgi/content/full/24/5/e29>). doi: 10.1136/emj.2006.045765

Osteopoikilosis is a rare, inherited bone disorder, which is usually found incidentally on x ray. It may be mistaken for other, more serious disorders such as bony metastases, causing undue distress to the doctor and patient.

Osteopoikilosis is a rare autosomal dominant condition, which is often diagnosed incidentally. It may be confused with other conditions such as bone metastases. We report a case of a 17-year-old boy who presented to the emergency department after an inversion injury to his right ankle.

CASE REPORT

A 17-year-old boy presented to the emergency department with an inversion injury to his right ankle. He had no other complaints, and was in good general health.

Examination revealed some tenderness and soft tissue swelling over the right lateral malleolus. He fulfilled the Ottawa criteria for ankle radiographs.

x Ray revealed no acute bony injury, however, an abnormal appearance of the tarsal bones was noted (fig 1). The emergency department doctor was concerned about the appearance, suspecting a possible malignant cause or biochemical disturbance. Blood tests were normal. The patient was informed of the unusual

findings, and the need for a specialist opinion to make the correct diagnosis. After discussion with the radiology department, further x rays were taken of his pelvis and contralateral ankle, both of which demonstrated a similar appearance. The diagnosis of osteopoikilosis was confirmed after a week.

DISCUSSION

Osteopoikilosis is characterised by multiple discrete oval or round radiodensities in cancellous bone, which lie in line with the trabeculae and is asymptomatic. The most commonly affected bones include the pelvis, carpal and tarsal bones and epiphyseal ends of the long bones. The disease, although benign, may be confused with bony metastases. It has been reported that bony metastases from patients with breast cancer have been missed owing to the presence of osteopoikilosis.¹ Various case reports have suggested links with other developmental dysplasias including coarctation of the aorta, urogenital defects, chondrocarcinoma and osteosarcoma. One study found members of the same family with five different associated lesions suggesting that osteopoikilosis may be part of a generalised fibroproliferative or stenosing disease.²

Recognition of osteopoikilosis in the emergency department could reduce distress to both the patient and medical practitioner when these unusual radiological findings are seen.

ACKNOWLEDGEMENTS

We thank Dr A Keightley, Consultant Radiologist, Frimley Park Hospital, Frimley, Surrey, UK.

Authors' affiliations

Matthew Bull, LAS Registrar Accident & Emergency, Frimley Park Hospital, Frimley, Surrey, UK

Phil Calderbank, SHO Accident and Emergency, Frimley Park Hospital, Surrey, UK

Navin Ramachandran, SpR Radiology, Frimley Park Hospital, Surrey, UK

Competing interests: None.

Informed consent was obtained from the patient for publication of his details in this paper.

Correspondence to: Mr M Bull, Frimley Park Hospital, Portsmouth Road, Frimley, Surrey GU16 7UJ, UK; mattdbull@yahoo.co.uk

Accepted 23 December 2006

REFERENCES

- Kennedy JG, Donahue JR, Aydin H, *et al*. Metastatic breast carcinoma to bone disguised by osteopoikilosis. *Skeletal Radiol* 2003;32:240–3.
- Gunal I, Kiter E. Disorders associated with osteopoikilosis. *Acta Orthop Scand* 2003;74:497–9.

Figure 1 x Ray showing abnormal appearance of the tarsal bones.