Malignant transformation of a solitary enchondroma

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CASE REPORT

A 45-year-old man presented in 1973 with a history of an injury to the left little finger. Plain radiography done in 1973 revealed the typical appearances of a benign enchondroma involving the proximal phalanx of the left little finger (*Figure 1*). The lesion was curreted and the cavity packed with cancellous bone taken from the patient's left iliac crest. The histology was confirmed as a benign enchondroma. The patient had an uneventful recovery. He presented again in 1994 with a recurrence of the swelling in the left little finger. A repeat surgical curreting was carried out and the histology report was consistent with a benign enchondroma. The patient presented again in 1997 with recurrence of the swelling in the left little finger. The radiographic findings on the plain film was that of a local malignant process involving the proximal phalanx of the left little finger (*Figure 2*). The left little finger was amputated and the histology report confirmed the presence of a chondrosarcoma. The patient has had regular review and shows no evidence of recurrence.

INTRODUCTION

Solitary enchondroma mainly constitutes hyaline cartilage growth in the medullary canal of a single bone and is benign. It occurs more commonly in short tubular bones, the proximal femur and humerus.

Malignant change in a solitary enchondroma is an uncommon but recognized complication. This article reports a case in which malignant change took place after 25 years.

Figure 1. Plain radiograph of the little finger showing a lytic lesion in the metadiaphyseal area of the proximal phalanx associated with cortical thinning.

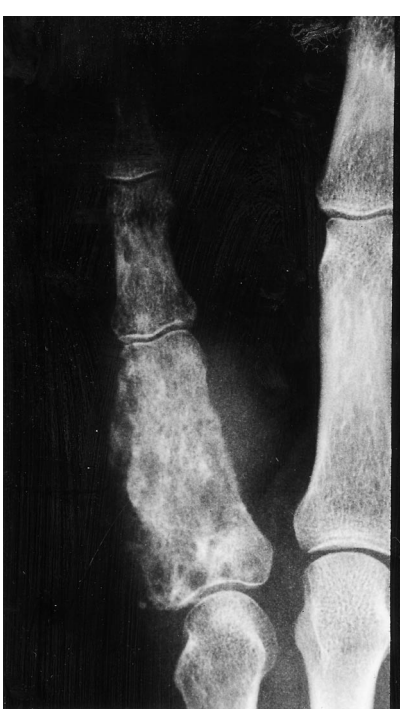

Figure 2. Plain radiograph of the little finger showing a locally aggressive lytic lesion with disruption of the cortex and a soft tissue swelling.

DISCUSSION

Jaffe and Lichtenstein (1943) published an excellent paper on solitary benign enchondroma of bone which discussed the clinical, radiological and pathological features of this tumour and their description is valid to date. Enchondroma is the most common solitary tumour arising in the phalanges and it occurs in the intramedullary portion of the affected bone. Multiple enchondromas are associated with both Ollier's disease and Maffucci's syndrome (Guidici et al, 1993). Classic radiographic findings are as follows:

1. The lesion is oval, well-circumscribed, lytic, metaphyseal to metadiaphyseal and with densities
2. Densities are small and punctate to short, 'ring-like' and 'arc-like' forms
3. Cortex can show narrow scalloping to focal thinning
4. Small and thin bones can show expansion.

Some or all of these features may present on plain radiography of an enchondroma (Brien et al, 1997).

Pathologically an enchondroma consists of discrete islands of hyaline cartilage surrounded by lamellar enchondral bone. Persistent encasement by lamellar bone is a characteristic feature that favours a benign lesion. Therefore, enchondroma has two very characteristic histological

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patterns which reflect its genesis and slow growth, namely benign islands of cartilage pattern and enchondroma encasement pattern.

Malignant transformation is more common in Ollier's disease and Maffucci's syndrome than in a solitary enchondroma (Brien et al, 1997). Solitary enchondromas are usually discovered incidentally following a pathological fracture and occur in the third and fourth decades of life.

When diagnosing and treating any enchondroma it should always be assumed that it may be a well-disguised low grade chondrosarcoma or already contain the seeds of malignant change.

It has also been described that chondrosarcomas of the short tubular bones of the hands and feet may not show any real radiological evidence of malignancy. For this reason so close radiological follow-up for subtle changes is necessary even if the initial radiograph is benign (Cawte et al, 1998).

A patient who has a solitary enchondroma should be advised to return to hospital if the person develops steadily increasing pain, often worse at night, or if they develop a soft tissue mass (Brien et al, 1997).

This patient is a rare example of malignant transformation of a solitary enchondroma and clinicians need to bear this in mind in the long-term follow-up of such patients. HM

Brien EW, Mirra JM, Kerr R (1997) Benign and malignant cartilage tumours of bone and joint: their anatomic and theoretical basis with an emphasis on radiology, pathology and clinical biology. *Skeletal Radiol* **26:** 325–53

Cawte TG, Steiner GC, Beltran J, Dorfman HD (1998) Chondrosarcoma of the short tubular bones of the hands and feet. *Skeletal Radiol* **27**: 625–32

Guidici MA, Moser RP, Kransdorf MJ (1993) Cartilaginous bone tumours. *Radiol Clin North Am* **31(2)**: 237–59

Jaffe HL, Lichtenstein L (1943) Solitary benign enchondroma of bone. *Arch Surg* **46:** 480

IN THE PUBLIC'S VIEW...

Doctoring the truth: medicine on TV

A colleague e-mailed. He was being interviewed on BBC1's *Watchdog Healthcheck* (29 January). So I watched. I wish I hadn't. It was everything a medical programme shouldn't be. Here we are, trying to get public approval and understanding of difficult medical issues, and *Healthcheck* comes along with its flashy studio displays and breathless presenters, neatly stripping all intellectual content from its subject matter much as an abattoir worker strips out spinal cords: quickly, effectively and without any mess.

In its 30 minutes, *Healthcheck* dealt with cash for organs, the increasing resistance of head lice to treatment, children killed by misinjected vincristine, the *Chlamydia* epidemic, and whether the NHS should fund research into alternative medicine. Each topic — except the head lice — would have filled the whole 30 minutes, and might then have sent viewers away better informed and genuinely interested. With the soundbites and distortions of Gaby Roslin and her trendy crew, confusion and puzzlement seemed more likely, if anything was to outlast the programme at all.

Superficiality reigned as expert opinion was 'balanced' by emotive interview. 'Where will it end?' was the cry about body parts, overlooking that the worst excesses seem to have been committed by a rogue pathologist who seemed to have more in common with Harold Shipman than with fellow pathologists. But no time, no time: let's get on and report the horror of injecting the wrong drugs into spinal cords.

And so on, until what I was watching for: complementary and alternative medicines (CAM). 'Prince Charles swears by them,' began bubbly Gaby. Indeed he does. For reasons that I have been trying to fathom, and as if he lacks a platform, the *British Medical Journal* (20 Jan) allowed HRH to air his prejudices in a personal view. (Should the reference be Windsor C, 2000?) Professor John Garrow was introduced as a critic of CAM and was then presumably left standing in the studio while viewers saw what was effectively a 4-minute anecdotal advertisement. 'And reflexology has been proved to help patients with cancer.' Evidence please? Where was that trial published?

John Garrow did his best with the 75 seconds he was allowed, but then Chris Rogers rang in. From the start, viewer participation had been encouraged. There were rows of young operators sitting in front of multi-coloured computers. Viewers could phone, fax or e-mail. The presenter fielding the calls had fashionably spiky hair and a friendly grin:

'Yes, people have been phoning in since before the programme began, and most disagree with John Garrow. Chris Rogers from the West Midlands thinks that alternative medicines should be available on the NHS and not just to those who can afford them.'

And that was it. John Garrow (emeritus professor of nutrition, committee member of HealthWatch, author of many scientific papers and books) 0; Chris Rogers 1.

In my programme guide, *Watchdog Healthcheck* was supposed to be about ambulance services. If it ever appears, I won't be watching. HM

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