Giant cell tumour of the phalanx

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Citation

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Abstract

A 39 year old woman presented with a painful and swollen left middle finger with no overlying skin abnormality. There was no history of past trauma. A radiograph showed a radiolucent lesion, within the proximal phalanx, with surrounding cortical thinning and a distinct margin of reactive bone. Histological analysis reported a giant cell tumour of bone. With ray amputation the patient had excellent hand function and has had no complications.

Work was done at:

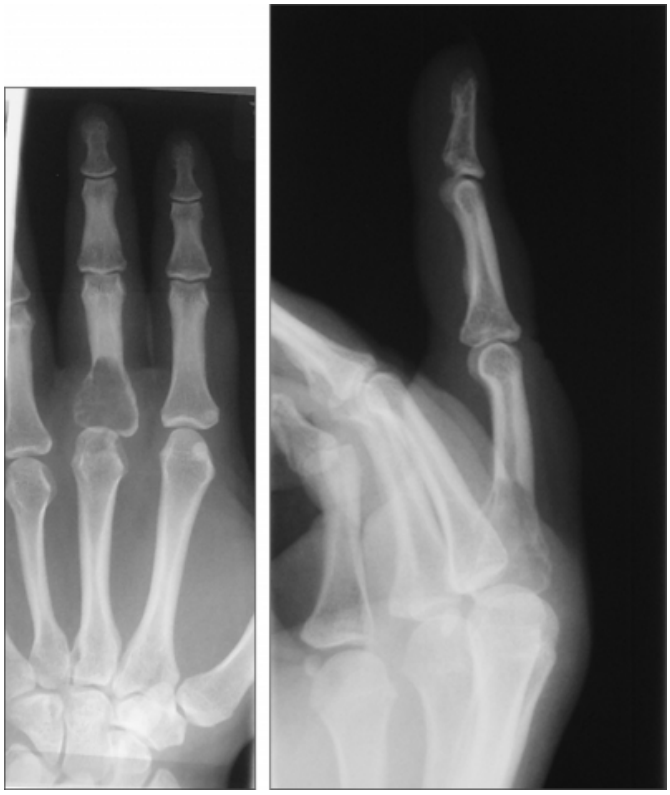
Arrowe Park Hospital, Arrowe Park Road, Wirral, CH49 5PE, UK

CASE REPORT

This 39 year old lady presented with a short history of a painful and swollen left middle finger of her non dominant hand. There was no history of trauma. The overlying skin was normal with no neurovascular deficit to the finger. A radiograph revealed a lytic lesion within the base of the proximal phalanx of the middle finger. The margins of the lesion were well defined with a narrow zone of transition (Figure 1). At this stage the patient was reluctant to have any further investigations.

Figure 1

Figure 1: Anteroposterior and lateral radiograph of the left middle finger.



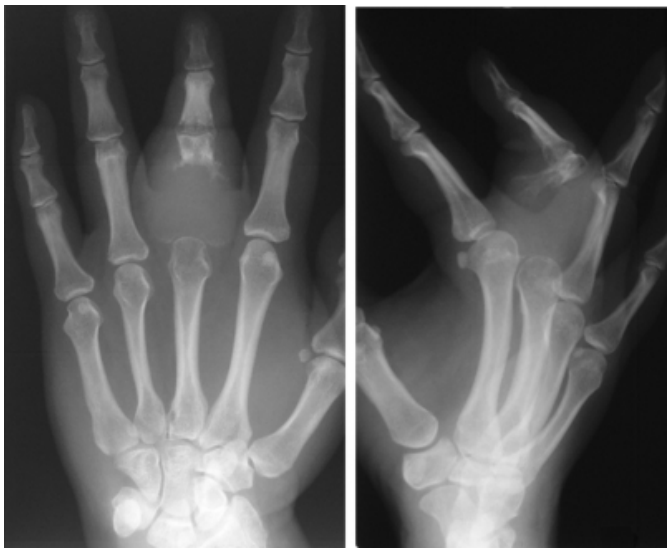
She was next seen five months later. The swelling had continued to enlarge and the pain had not settled. The clinical pattern suggested it was probably a malignant lesion.

A second radiograph showed expansion of the lesion with complete bony destruction of the proximal end of the proximal phalanx and soft tissue swelling (Figure 2). The appearances of the sequential radiographs suggested a

differential diagnosis of either an expanding enchondroma or a benign aneurysmal bone cyst.

Figure 2

Figure 2: Anteroposterior and lateral radiograph of the left middle finger five months after presentation.



The patient had a ray amputation of her left middle finger at the base of her metacarpal bone. Amputation was decided on as the lesion was too large for wide local excision. Histological analysis undoubtedly reported a giant cell tumour of bone. The differential diagnosis was a giant cell reparative granuloma of bone.

The patient made an excellent recovery from surgery with good hand function. There has been no reoccurrence or further problems to date.

DISCUSSION

Giant cell tumours are a common benign but locally aggressive lesion of unknown aetiology. They occur chiefly in males aged 20 to 50 years old (after epiphyseal closure). The tumour is an expansive lytic lesion that involves the epiphysis and metaphysis. It may erode and penetrate subchondral bone, articular cartilage and surrounding soft tissue structures. They commonly occur in the epiphysis of the distal femur, proximal tibia and the distal radius.

The main clinical symptoms are non specific local swelling and pain independent to weight bearing. Pathological fracture is the first sign in 15% of cases.[1] Duration of symptoms varies from 2 to 6 months.[2]

Radiographic features are large radiolucent lesions surrounded by a distinct margin of reactive bone. Often the lesion is eccentric, with cortical thinning and destruction of the medullary and cortical bone. CT scan helps to determine the amount of cortical destruction. MRI is useful for determining the extent of tumour erosion through the cortex and involvement of other concomitant structures.[3] They demonstrate low to intermediate signal intensity on T1-weighted images and high intensity on T2-weighted images. However, there is often an abundance of haemosiderin present from erythrocyte haemolysis and this produces a low intensity in T2-weighted images.

Tumours with similar radiographic appearances include aneurysmal bone cysts, chondroblastoma, giant cell reparative granuloma, non ossifying fibroma and central sarcomas.

Benign metastasing giant cell tumours occur in 5 to 10% of cases with pulmonary metastases in 2 to 6 %.[2] A chest radiograph is justified at presentation and subsequent follow up.

The primary treatment is for wide surgical excision which can control the majority of benign aggressive giant cell tumours.[2,4,5] Often this is difficult if joint margins are involved and the treatment of choice is either excision with joint reconstruction, curettage with bone grafting or amputation. The disadvantage with this is the risk of local reoccurrence. In selected cases modern radiotherapy is an effective alternative in areas of difficult resection.

Prognosis is difficult as histological grading has little value. Benign histology doesn't necessarily relate to clinical behaviour of the tumour. On the whole, a disease free survival of 96 to 100% as the final outcome of treatment is reported.[2]

References

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