DESMOPLASTIC FIBROMA OF BONE

Report of a Case

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Adult bone contains primitive mesenchymal cells from which tumours of differing histological appearance can arise.

CASE REPORT

A girl of sixteen came to hospital after falling on her right shoulder. A radiograph showed an osteolytic tumour of the uppermost third of the humerus which involved the epiphysis, had a lobulated appearance and expanded the bone, but there was no periosteal reaction (Fig. 1). Re-examination a year later showed muscle wasting around the shoulder, but there was no palpable tumour and no sign of inflammation. Shoulder movements were restricted and there was slight tenderness over the head of the humerus. Biopsy at this time showed a desmoplastic fibroma (Fig. 2).

![Figure 1](image1.png)  ![Figure 2](image2.png)

**Fig. 1**—Radiograph showing epiphysial and metaphysial involvement by the lobulated osteolytic tumour which has expanded the bone, there being no periosteal reaction. **Fig. 2**—Photomicrograph showing abundant intercellular tissues, rich in collagen fibres, with small and uniformly scattered fibroblasts with oval shaped, benign looking nuclei.

Definitive treatment of the lesion has not yet been undertaken. Curettage and bone grafting would be impracticable. We have advised resection of the whole tumour with fibular substitution and arthrodesis, but the patient has declined operation.

DISCUSSION

Jaffe (1958) described five cases of desmoplastic fibroma of bone and pointed out that the tumour originates from connective tissue and fibroblasts; hence the term *desmoplastic* to denote a fibrous density suggestive of the desmoid tumour of the abdominal wall. By the use of this term Jaffe also differentiated it clearly from non-osteogenic fibroma and chondromyxoid...
fibroma. Pathologically a desmoplastic fibroma is whitish-grey in colour, rubbery in consistence and shows no ossification or calcification. Histologically there is an abundance of intercellular tissue rich in collagen fibres, with small homogenous fibroblasts oval in shape with nuclei of benign appearance. Radiologically the tumour is osteolytic; it arises from the centre of the bone and has an expanded appearance without any surrounding periosteal reaction. Differential diagnosis has to be made from non-osteogenic fibroma, giant-cell tumour, chondromyxoid fibroma, monostotic fibrous dysplasia and fibrosarcoma.

At the present time thirteen cases have been reported. Jaffe (1958) reported five, Whitesides and Ackerman (1960) three, Scheer and Kulhman (1963) one, Dahlin and Hoover (1964) two, and Cohen and Goldenberg (1965) two. As the number of reported cases is small it is impossible to indicate the commonest age and the predominant sites of the tumour. In Jaffe's cases there was no involvement of the epiphyses; three lesions were situated in the tibia, one in the femur and one in the scapula. Two of Whitesides and Ackerman's cases were situated in the humerus, both involving the upper epiphysis, and one affected the ilium. Scheer and Kulhman described the lesion in a vertebral body and Dahlin reported one in the calcaneus and one in the radius, there being no epiphyseal involvement in either case. Cohen and Goldenberg reported one tumour in the shaft of the femur and the other in the upper end of the humerus. The age distribution of all cases reported is between eight and forty years.

In our opinion the tumour is best treated by curettage and bone grafting when feasible, or by segmental resection.

REFERENCES