OSTEOGENIC SARCOMA OR OSTEOMYELITIS?

A Case Report

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The diagnosis of osteogenic sarcoma is often depressingly obvious, but in a few patients it is most difficult to decide whether a given bone lesion is neoplastic or inflammatory. The development of angiography has introduced a diagnostic procedure which may be of great assistance on these critical occasions, as shown by the following case:

A man aged 34 years noticed an ache in his left thigh after a game of hockey in November 1951. He remembered no direct injury during the game or previously. The pain increased, flexion of the knee became limited, and at the same time a swelling appeared in the thigh. He was treated elsewhere by immobilization in plaster for six weeks; during this period the pain was relieved, but it recurred rapidly on return to activity.

When first seen at the Middlesex Hospital in February 1952, he complained of pain over the antero-lateral aspect of the thigh, present during rest and severe on attempting to flex the knee. He walked painfully, with the knee stiff. There was a firm, diffuse, tender swelling, measuring some 8 in. by 3 in., deep to the muscle of the lateral aspect of the thigh; the overlying skin was relatively warmer than elsewhere. A radiograph showed irregular periosteal new bone formation on the lateral aspect of the upper third of the femur, overlying an area of cortical erosion; also there was a thin line of new bone on the medial aspect (Fig. 1). On the strength of these clinical and radiographic appearances a tentative diagnosis of osteogenic sarcoma was made and the patient was admitted to hospital immediately.

Further examination showed the temperature to be raised, and there was a leucocytosis of 19,000, 70 per cent. being polymorphonuclear leucocytes. Films of the chest were normal. None the less, in view of the clinical picture and radiographic findings of bone destruction with new bone formation, the diagnosis of osteogenic sarcoma was still con-

sidered to be the most likely. In an attempt to elucidate the problem a left femoral arteriogram was performed by Dr. David Sutton (Fig. 2). This showed a normal arrangement of vessels and no pooling of the contrast medium, as would have been expected with a malignant lesion, and although osteogenic sarcoma still remained a possibility, it now seemed most likely that the lesion was inflammatory rather than neoplastic.

The following day the swelling was explored. A large abscess was found between vastus intermedius and vastus lateralis, arising from an area of necrotic bone on the lateral aspect of the femur. The wound was lightly sutured and a drain inserted; full courses of penicillin and sulphadimidine were given. Culture showed the organism to be a coagulase-positive staphylococcus aureus, and sections of the abscess wall confirmed the presence of inflammatory tissue with no evidence of malignancy. The pyrexia soon settled, the wound healed, and apart from some scarring in the quadriceps which temporarily limited full flexion of the knee, recovery was complete within a month.

Discussion

Clinical examination and the plain films in this case pointed strongly to the diagnosis of an osteogenic sarcoma. In particular this diagnosis was suggested by the radiological findings of cortical bone destruction, with adjacent subperiosteal new bone formation mimicking Codman's triangles. Admittedly the pyrexia and leucocytosis were in favour of the lesion being infective, but neither were thought to be incompatible with new growth. It was only after the arteriogram had been performed that the diagnosis of an inflammatory lesion became a probability.

There is a long-standing reluctance to perform a biopsy on what may be a highly malignant tumour,

FIG. 1

FIG. 2

although many surgeons regard this reluctance as ill founded; moreover, biopsy may be difficult and undesirable apart from the possible risk of spreading the growth. In such circumstances an arteriogram may be useful, and with increasing experience of this technique it may become possible to exclude a malignant bone tumour with some confidence. This case is reported as being a good example of the use of the procedure in helping to decide the nature of a doubtful bone lesion.

Acknowledgments

My thanks are due to Mr. Philip Wiles, under whose care this patient was admitted, for his help in preparing this report, and also to Sir Harold Graham Hodgson and Dr. D. Sutton for permission to reproduce the films, which were printed by Mr. Turney of the Middlesex Hospital Photographic Department.

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