CASE REPORT

RECALCITRANT STRESS FRACTURE — A CASE MANAGED BY DRILLING

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Stress fractures are common in sport (McDougall, 1976; Devas, 1969; Slocum, 1967). Most clinicians dealing regularly with sports injuries are aware of their frequency and they are therefore commonly diagnosed. The usual treatment is a period of rest to allow healing. In some cases however symptoms persist and regular radiological examination reveals that healing is delayed. Management of such cases presents considerable problems in individuals who are anxious to return to sporting activity without undue delay. The case presented offers a radical method of management which may be of value in other recalcitrant cases.

CASE HISTORY

The patient A.B. was a twenty-one year old rugby player of county standard. He complained of considerable pain in the outer side of the left leg associated with training and that he had a tender lump on the bone above the ankle. The condition had been present for several months: he had tried to run it off and he had also tried rest. Clinically he showed the typical features of a stress fracture with a palpable hard tender mass on the fibula approximately 6 cms. above the tip of the lateral malleolus. X-rays (Figure 1) showed the classic appearance of stress fracture with sub-periosteal thickening and a poorly defined transverse crack. He was treated by rest and strapping but his symptoms persisted despite non-participation in any form of sporting or other physical activity. Further radiological studies six weeks later showed the fracture still present with a more obvious defect and increased bone density. The patient became very disappointed with the results of rest and asked if anything further could be done. It was suggested that a procedure now somewhat obsolete but which had been formerly used in the treatment of delayed union of fractures (Watson-Jones, 1960) might be of use in this case and the patient readily agreed. Accordingly under general anaesthetic the fracture site was explored and a single 1/8th inch drill hole made through the lateral cortex of the fibula into the medulla at the level of the fracture site (Figure 2). At this point the bone around the fracture site was very dense and compact (Figure 3).

Post-operatively the patient remained in bed for one day only and was then gradually mobilised. Sutures were removed on the 12th post-operative day by which time he had already had a run symptom free. He was back in full normal training three weeks after the operation with no residual symptoms. He has had no discomfort or other clinical problem related to his stress fracture site since his operation.

DISCUSSION

Stress fracture of the fibula is a common overuse injury

Fig. 1: Stress fracture of left fibula — pre-operative appearance.

in sport. Healing usually occurs readily with cessation of sporting activity but in some cases, as in this, symptoms persist and healing is apparently delayed.

The radiological appearances of the fracture line were suggestive of dense bone with a poor blood supply and

this was confirmed by the findings at operation. Treatment by drilling produced rapid resolution of symptoms, whether due to alteration in the local haemo-dynamics or because of direct decompression is uncertain. The procedure left no lasting disability and the patient

rapidly resumed sporting activity afterwards.

It is suggested that drilling of the fracture line may have a place in the treatment of recalcitrant stress fractures in sportsmen.

Fig. 2: Stress fracture of left fibula — post-operative X-ray at time of removal of sutures. The drill hole is clearly seen.

Fig.3: Fracture site at operation. The drill hole into the thickened bone is clearly seen. No crack in the bone was demonstrable on this surface.

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