MYOSITIS OSSIFICANS IN THE BICEPS FEMORIS MUSCLES CAUSING SCIATIC NERVE PALSY

A CASE REPORT

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A case of bilateral myositis ossificans in the biceps femoris muscles causing a sciatic nerve palsy on the left side is described. Complete recovery of the sciatic nerve followed excision of the mass of ectopic bone. It is postulated that the patient's hobby of weight-lifting caused the ossification.

Myositis ossificans arising in the thigh muscles of athletes is a fairly frequent occurrence and the "riders' bone" due to ossification in the tendon of adductor longus in horse-riders has long been recognised. However, no previous case of sciatic nerve palsy due to ossification in the posterior thigh muscles has been recorded.

CASE REPORT

A Jamaican RAF corporal aged 24 years complained of intermittent low back pain for two years. His first attack occurred when he twisted whilst in a crouching position playing cricket, then in March 1977 he kicked a football with his left foot and he felt a severe pain in the back of the left thigh. This pain persisted and was accompanied by numbness of the outer side of the left calf and foot, with foot drop and weakness of eversion of the left foot. Two months later he presented as a very fit, well-built man and gave no history of direct injuries to his thighs. Examination of the lumbar spine showed no abnormalities apart from slight limitation of forward flexion. Straight leg raising was full and painless on both sides. However, there was complete paralysis of the left tibialis anterior, toe extensors and peronei, with weakness of the left calf muscles, absence of the left ankle jerk and complete loss of sensibility on the outer side of the left calf and the dorsum of the left foot. Examination of the left thigh revealed a large hard mass in the posterior thigh muscles, extending for 10 centimetres distally from the fold of the buttock. A similar but smaller mass was felt in the same position in the posterior muscles of the right thigh. Radiographs (Figs 1 and 2) showed these masses to consist of ossification in the posterior thigh muscles. Some exostosis formation at the right anterior superior and anterior inferior iliac spines was also shown.

Electrophysiological studies showed normal conduction in the left sciatic nerve as far distally as the upper margin of the ossified mass, but not below it; positive waves and fibrillation potentials were elicited from the anterior crural muscles on electromyography. The extensor digitorum brevis muscle however did not show any evidence of denervation and there was no neurological deficit in the right lower limb. Radiographs of the upper limbs showed no evidence of ectopic calcification. The biochemical levels in the blood were normal.

The left buttock and upper half of the left thigh were explored through a posterior approach. An irregular mass of bone was found in the substance of the biceps femoris muscle, from which it was excised with difficulty in two pieces by sharp dissection (Fig. 3). The upper end of this mass lay in the sciatic notch, and the sciatic nerve which was attached to muscle at this point was stretched tightly over it. The lower end of the mass consisted of a number of fingers of bone which blended with the tendinous fibres in the distal part of the muscle. The blending

Fig. 1

Figure 1—Anteroposterior radiograph showing ossified masses in both thighs, before operation. Figure 2—Lateral view of the left thigh.

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was comparable to the manner in which the tendons in a turkey's leg become ossified near their insertions. The mass of bone was not directly attached to the pelvis or femur. Histological investigation of the mass showed fibrotic muscle tissue which had undergone ossification with formation of bone of normal appearance. There was no evidence of malignancy (Fig. 4). A histological diagnosis of myositis ossificans was made.

The neurological deficit rapidly recovered after operation and after three days the tibialis anterior and peroneal had recovered to MRC Strength 3 and within three weeks his recovery was almost complete. Two years later no muscle weakness was detectable. However, there was very slight diminution in the sensibility on the outer side of the left calf and foot, and the left ankle jerk had not returned. Some recurrence of ectopic ossification occurred in the left thigh, but the mass in the right thigh remained unchanged and caused no pain. The patient did not resume his hobby of weight-lifting after the operation.

**DISCUSSION**

Ackerman (1958) refers to a series of 127 cases of traumatic myositis ossificans of which 13 were in the adductor muscles of the thigh. Geschickter and Maseritz (1938) reported 25 patients with circumscribed myositis ossificans of which 14 involved the thigh. Ellis and Frank (1966) described 37 cases of traumatic myositis ossificans occurring in the quadriceps femoris of young adults mainly involving direct trauma to the muscle. The only previous reference to sciatic nerve palsy due to pressure of a mass of ectopic new bone was by Kleiman *et al.* (1971) who described one case of late involvement of the sciatic nerve in a mass of callus after posterior fracture-dislocation of the hip.

The fact that the biceps femoris muscles of both thighs were involved in this case makes local direct trauma an unlikely cause. We postulate that repeated minor trauma caused by excessively strong contractions of these muscles while getting up from the squatting position in weight-lifting contests, initiated the ossification. This case illustrates that the association of low back pain with sciatica should not lead to the assumption that a disc prolapse or other intraspinal lesion is the cause without a full examination of the lower limbs.

**REFERENCES**


