SPONTANEOUS RUPTURE OF MUSCLE AS A COMPLICATION OF RHEUMATOID ARTHRITIS

BY

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Sudden major ruptures of muscle fibres, unassociated with trauma, do not appear among the listed complications of rheumatoid arthritis. As two cases illustrating the condition have been seen within a month of each other, it seemed advisable to put them on record. Rupture of muscle fibres unassociated with any sudden strain or unaccustomed exercise is stated to occur secondary to haemorrhages due to the blood diseases and also in the abdominal muscles in pregnancy. In the cases described below they seem to have been entirely secondary to the rheumatoid changes taking place in the muscle.

Case 1

A medical practitioner aged 56 had had bronchiectasis after being gassed in 1918. Eighteen months before the muscle rupture he had developed a typical polyarthritis, beginning in the right wrist and spreading to the shoulders, knees, hands, ankles, and feet, and he had lost over 2 st. (12.7 kg.) in weight. The bronchiectasis had been treated by all the usual methods, including penicillin by injection and inhalation, and for the arthritis he had been on a rest-and-diet regime, and had been given gold, blood transfusions, x-ray therapy for the knees, and many physical treatments. The sedimentation rate was very rapid (50% in the hour), the haemoglobin value was 60%, the colour index was 0.7, and the white count was normal but with a marked Arneth shift to the left. While walking across the room at a nursing-home he felt a sudden pain in the right calf muscle, and on examination during contraction a swelling was observed with a gap below it. Bruising became apparent shortly afterwards. Within two weeks the condition became painless and a good functional result was obtained, though obvious anatomical deformity on muscular contraction persisted.

Case 2

A man aged 54 had developed typical rheumatoid arthritis without any known antecedent cause. Two years ago—that is, four years after the onset of the trouble—he suddenly felt a slight pain in his left thigh and noticed a swelling, which has persisted ever since but has caused no disability. Four months ago, again without any trauma, a slight pain, like an electric shock running up the forearm, drew attention to the sudden fracture of the extensor tendon of the fourth digit of the right hand. About the same time inability to flex the terminal joint of the third digit of the left hand was noticed, and was found to be due to a rupture of one of the tendons of the flexor digitorum profundus.

Bruises have also appeared periodically on various parts of the body without his knowledge of any definite injury. In the earlier years of the arthritis he had had considerable pain on rest as well as on movement, but latterly on movement only. He had at no time lost much weight.

On examination he was seen to be a well-covered man weighing 15 st. (95.25 kg.). Most of his joints showed some involvement. His hands presented the typical rheumatoid

deformity, with ganglia at the wrist, and there were also typical rheumatoid nodules on the left elbow, in the left bicipital region, and on both Achilles tendons. A slight swelling giving a soft crepitus on palpation was discovered anterior to the right shoulder-joint. A swelling with a depression below it was observed in the left quadriceps muscle (Fig. 1), and also a bruise (of recent date) on the left thigh. There was a drop-finger due to a break in the extensor tendon of the right fourth digit (Fig. 2), with inability to flex the terminal joint of the right third digit voluntarily, but no stiffening of this joint.

FIG. 2.—Hand showing "rheumatoid ganglion" and drop-finger of fourth digit.

The sedimentation rate was moderately raised (32 mm. Wintrobe); the haemoglobin was 87%, and the colour index 0.8. The platelets and the bleeding and clotting times were normal. The plasma uric acid was 5.3 mg. per 100 ml. (a high normal).

A biopsy performed at the site of the quadriceps muscle rupture showed very marked degenerative changes in the muscle fibres, with complete disappearance of striation, together with large areas of fibrous tissue but little inflammatory reaction (Figs. 3 and 4). A nodule removed for examination proved to be typical of those usually found in rheumatoid arthritis.

FIGS. 3 and 4.—High- and low-power photographs of biopsy section at the site of spontaneous rupture, showing very marked degeneration of some of the muscle fibres with loss of striation and slight cellular reaction between the muscle fibres. No typical rheumatoid "foci" were seen in this biopsy specimen.

FIG. 1.—Depression in the quadriceps muscle due to spontaneous rupture.