Case report

Rupture of the extensor tendons of the hand in lupus erythematosus disseminatus

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There have been only sporadic reports of rupture of tendons in cases with lupus erythematosus (LE), e.g. rupture of the Achilles tendon (Cowan and Alexander, 1961; Lee, 1961; Bedi and Ellis, 1970) and rupture of the patellar tendon (Twining, Marcus, and Garey, 1964). We here present a case of spontaneous rupture of tendons in the hand of a male with LE. We were unable to find a similar report in the available literature, including The comprehensive book on lupus erythematosus by Dubois (1966).

Case report

A 58-year-old man was under the care of the Departments of Dermatology and Internal Medicine of our hospital. His illness had begun as a rash on and around the ear lobes which spread to the nape of the neck, face, and hands. The rash consisted of dark red patches with a tendency to converge on the forehead, nose, and cheeks. There were also haemorrhagic papules and a subfebrile fever. All these manifestations disappeared with the administration of 20 mg. prednisone a day. When the dose of steroids was reduced a year later the rash reappeared, accompanied by weakness and arthralgia. The skin biopsy was not conclusive, but the clinical diagnosis was compatible with LE. The erythrocyte sedimentation rate was 83 in the first hour and antinuclear factor was repeatedly found in the serum. Electrophoresis demonstrated type M gamma globulin of the IgG group which was constructed of light kappa-type chains. IgM was normal and IgA reduced. No LE cells were found in the blood.

The patient was referred to the orthopaedic out-patient clinic after having observed a sudden inability to extend the fourth finger of his left hand. During the previous 2½ years he had been taking 20 to 30 mg. prednisone daily. A spontaneous tear of the extensor tendon was diagnosed and the affected finger was immobilized for a month. There was no improvement and he was then operated upon. The dorsal aspect of the left hand was explored through a sinusoid incision extending from the wrist to the fourth metacarpophalangeal joint. The common extensor tendons to fingers 2, 3, and 4 were found to be split along their course into separate fibres. Some of the fibres were torn without any visible repair reaction; they were of normal colour. The extensor tendon to finger 4 was completely torn about 3 cm. proximal to the metacarpophalangeal joint. The extensor retinaculum at the wrist was opened, but no pathological findings, such as stricture, hypertrophy of the

synovia, or bony spurs, were found. The distal part of the torn tendon was sutured to the extensor tendon of the fifth finger, which looked normal. A plaster splint was applied for 5 weeks. The sutures were removed 3 weeks after the operation. The wound healed by first intention.

The microscopic examination of the synovia and the tendon sheath (Figs 1, 2, overleaf) showed areas of fibrinoid necrosis. There was no cellular infiltration.

Discussion

Spontaneous tear of tendons in patients receiving steroids, either systemically or locally, is a well-known phenomenon (Moberg, 1965; Sweetnam, 1969). All the patients with LE in which tear of tendons was described were under steroid treatment and it is impossible to distinguish between the contribution made by the steroids and the role of the primary disease in the attenuation of the tendons (Mayer, 1961; Dubois, 1966).

Typical of the tears of tendons in patients receiving steroids is degeneration without inflammatory reaction. This finding, which was present in our case, has also been described by Twining and others (1964) in a case of rupture of the patellar tendon in LE.

Rupture of tendons in rheumatoid arthritis is quite common. The aetiology, as summarized by Mannerfelt and Norman (1969), is as follows:

- (1) Direct invasion by granulomatous rheumatoid tissue.

- (2) Occlusion of the vincular blood vessels by the hypertrophic rheumatoid tissue, resulting in infarct of the tendon.

- (3) Attrition of the tendon over bony spurs.

None of these factors was observed in our case. No granulomatous tissue was found and the synovia and tendon were in a state of fibrinoid degeneration without any infiltration.

Fibrinoid degeneration is very common in LE (Cruickshank, 1959) and it is surprising that rupture of tendons is so rare in this disease.

Summary

A case is described of spontaneous rupture of an extensor tendon of the hand in a 58-year-old male

FIG. 1 *Synovium—loss of synovial lining cells and fibrinoid necrosis on the surface. Periodic acid-Schiff. $\times 250$*

FIG. 2 *Tendon sheath—large area of fibrinoid necrosis. Periodic acid-Schiff. $\times 250$*

with lupus erythematosus who had received steroid treatment for the previous 2½ years. Exploration revealed that the common extensor tendons to fingers 2, 3, and 4 of the left hand were split into separate fibres, some of which were torn, with complete tear of the tendon to finger 4. Histological examination revealed fibrinoid degeneration of the synovia and

tendon sheath, without repair reaction. Tenorrhaphy of the distal end of the torn tendon to the extensor tendon of the 5th finger brought satisfactory results.

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