CYSTIC DEGENERATION OF THE PERONEUS BREVIS TENDON

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Tendons that are enclosed in synovial sheaths commonly escape the degenerative lesions affecting collagenous tissue. The following case shows marked degenerative changes in the substance of the peroneus brevis tendon. It appears that no similar lesion has been recorded.

CASE REPORT

Four years ago the patient, a woman of fifty-four years, had slipped on a grassy slope, sustaining a severe inversion strain of the right ankle which was treated by immobilisation in a below-knee plaster for six weeks and then by strapping for two weeks. Radiographs taken the day after the injury showed no bony damage.

She continued to have pain and swelling over the peroneal tendons both at rest and on walking, and eventually sought further advice. On clinical examination a tender, firm, non-fluctuant swelling could be palpated in the line of the peroneal tendons. Antero-posterior and lateral radiographs of the ankle were negative; an antero-posterior view taken in forced inversion showed no significant tilt of the talus.

Exploration of the swelling was undertaken. The synovial sheath of the peroneus brevis tendon was thickened and contained a little free fluid, its visceral surface being shaggy and yellowish. The appearance after the synovial sheaths were opened is shown in Figure 1. The tendon of the peroneus brevis was of normal size near its origin from the muscle belly, but in its lower two-thirds it was greatly thickened and nodular. It was excised from the musculo-tendinous junction to its insertion into the fifth metatarsal base. On transection it contained numerous little cystic spaces which were separated from each other by narrow fibrous septa (Fig. 2).
Transverse sections of the tendor.

Cystic spaces separated by fibrous septa. ($\times 60.$)

An active focus of degeneration. ($\times 250.$)
Microscopically the swelling and nodularity were seen to be due to mucoid or gelatinous degeneration of the fibrous collagenous tissue with the formation of cysts filled with clear, colourless mucoid material. Due to the breaking down of their adjacent walls many of the smaller cysts had coalesced to form larger ones up to a centimetre in diameter. They have walls of fibrous tissue lined by a single layer of flattened cells which are fused with the surrounding tissues (Fig. 3). The high power photomicrograph (Fig. 4) shows an area whose features reveal the early active stage of the condition. There is a focus of fibroblasts showing degenerative changes, swelling of the cytoplasm, rupture of the cytoplasmic membrane and the formation of clear spaces which presumably contain the mucoid fluid. Pyknosis of the nuclei, infiltration of a few round cells and granular debris can also be seen. Transverse sections of the tendon at various levels revealed the degenerative process to be active in its proximal part, whereas distally it appeared inactive.

COMMENT

Since this lesion was immediately preceded by a single well remembered strain of the ankle, trauma may have been the main factor in initiating the intratendinous degeneration, although it is interesting that the accompanying peroneus longus tendon appeared normal to the naked eye. The thickening of the synovial sheath is thought to be secondary to the swelling of the tendon itself. Microscopically this rare condition is indistinguishable from those common cystic swellings that arise on the dorsum of the wrist and foot, and from a lateral semilunar cartilage. These swellings are also frequently attributed to injury (Ogilvie 1957).

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REFERENCE