Medical Memoranda

Torsion of the Infrapatellar Fat Pad

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Torsion or volvulus of part of the infrapatellar fat pad of the knee-joint is a rare condition which may produce locking of the knee-joint and so be confused with meniscus tears or the presence of loose bodies. Single cases have been reported by Diamant-Berger (1930) and Chesterman (1964), and Coleman, Simmons, and Barrington (1964) reported three cases.

It is probable that the acute episode is preceded by recurrent nipping of the alar fold of the fat pad, leading to thickening of this fold and elongation of the pedicle. Chesterman suggested that the pedunculated swelling could possibly be a benign neoplasm; but the histology of his case, and of the cases of Coleman *et al.*, was more consistent with inflammation and ischaemic necrosis than with neoplasia. The actual torsion is usually precipitated by a minor injury or twist. Severe pain is accompanied by inability to flex or extend the knee fully. Joint effusion follows a few hours later. There is marked peripatellar tenderness over the medial or lateral joint line, and a swelling may be palpable at the tender point. There are no radiographic changes.

CASE REPORT

A bricklayer aged 24 fell off a lorry in December 1964 and twisted his left knee. The knee became locked in a few degrees of flexion, and several hours later it had become swollen. A back splint was applied for a week, and the effusion gradually absorbed. When this occurred the patient noticed a small antero-medial swelling. Four weeks later he again twisted the knee, and suffered pain and swelling.

On examination eight weeks after the first incident he was found to have very poor quadriceps, a moderate effusion, tenderness over both medial and lateral joint lines, and a rubbery block to the last 10 degrees of extension. There was also considerable limitation of flexion (range 170 to 110 degrees). A small cystic swelling was felt over the medial joint line; this disappeared on flexing the knee. The patient was moderately overweight but otherwise fit.

Operation.—The knee was explored through a vertical antero-medial incision. The joint contained much fluid, stale blood, and fibrinous clots. The synovial membrane was thickened and oedematous. A dark red nodule 2 by 1.5 by 1 cm. was then seen adjacent to the retropatellar fat pad. This was delivered, revealing a second but larger plum-coloured swelling measuring 4 by 3 by 1.25 cm. (Fig. 1). The two swellings were connected by a narrow bridge of tissue (Fig. 2), and from this bridge a twisted pedicle joined the swellings to the fat pad. The medial meniscus appeared to be normal. The two swellings were excised, a synovial biopsy was taken, and the joint was closed.

The patient made an uneventful recovery, and was back at work as a bricklayer in 10 weeks.

Histological examination showed a firm smooth nodule containing caseous material and also some brown areas. Microscopically this

appeared to be a pad of fat which had undergone necrosis. Areas of reactive inflammation with crystal clefts, giant cells, and foam cells were present, and also deposits of haemosiderin, indicating past

FIG. 1.—The larger swelling is seen presenting at the medial joint space.

FIG. 2.—The two swellings connected by a narrow twisted bridge of tissue.

haemorrhage. The appearance was consistent with a reaction to infarction and necrosis of a piece of vascular synovial fat due to twisting. The synovial biopsy showed chronic synovitis with increased vascularity and round-cell infiltration of a non-specific type.

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