

MEDIAL MENISCAL CYST AS A CAUSE OF BONE EROSION

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A case of a medial meniscal cyst which was so extensive that it caused erosion of the medial tibial condyle is described. Clinical data and roentgenographic features of this case are discussed.

Keywords : meniscus ; cyst ; bone erosion.

Mots-clés : kyste ; ménisque ; érosion osseuse.

INTRODUCTION

Meniscal cysts are not uncommon, being found in 1% to 22% of meniscectomies (1, 5). Patients are usually young adults, mostly males. The lateral meniscus is most commonly affected, whereas medial meniscus cysts are usually larger (5, 6). A history of trauma is recorded in around 50% of the cases, but ethiopathogenic factors are still being debated (5). The expanding mass of a meniscal cyst can mimic a tumor, but it rarely causes bone erosion (2). In this paper we present a patient with a medial meniscal cyst that caused erosion of the medial tibial plateau.

CASE REPORT

The patient was a 60-year-old white man with an 8-year history of a mass in the anteromedial aspect of the right knee, with intermittent pain episodes. Pain had increased in severity over the last year and was aggravated by walking. He reported previous trauma in this knee suffered during a soccer game 40 years ago.

On physical examination a palpable rubbery mass was found along the anterior medial joint line, which was swept back posteriorly with flexion (fig. 1). The remainder of the examination showed



Fig. 1 A

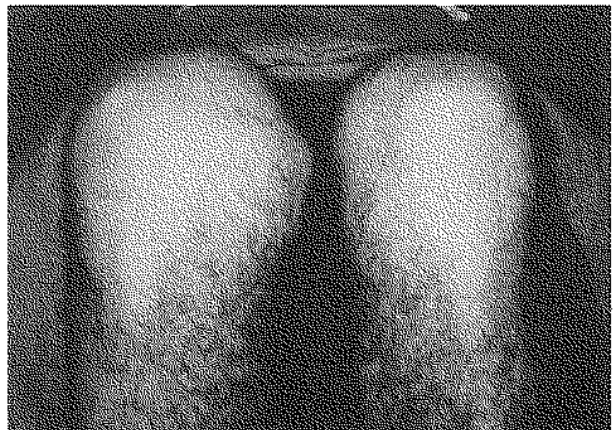


Fig. 1 B

Fig. 1. — (1 A) Physical examination showing a mass on the anteromedial joint line which swept back posteriorly with flexion (1 B).

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no further abnormalities. Aspiration of the mass demonstrated mucoid fluid without cellular atypia.

Roentgenograms made during the initial visit revealed ill-defined erosions on the medial side of the medial tibial condyle, below the joint line (fig. 2). A technetium bone scintigram showed a focal area of increased activity in the medial tibial plateau and femoral condyle (fig. 3). Arthrography did not show a meniscal tear, or pooling or puddling of contrast material at the periphery as indicative of a meniscal cyst. The CT scan indicated a multilobulated mass on the medial side of the right knee which caused bone erosion in the tibial condyle, which was suggestive of a meniscal cyst. Roentgenographically the mass was well delineated, with a sclerotic rim (fig. 4). Surgical intervention confirmed the presence of an intracapsular cystic mass attached to the peripheral margin of the internal meniscus, extending forward



Fig. 2. — Anteroposterior radiograph of the right knee, showing mild erosions in the medial tibial plateau (arrow).

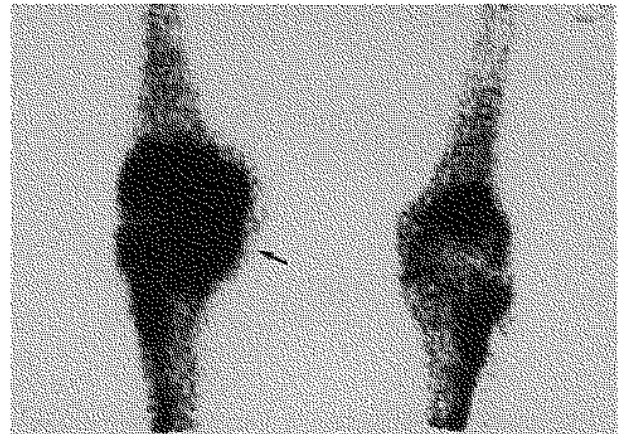


Fig. 3. — Bone scan showing increased uptake in the medial tibial plateau and femoral condyle of the right knee (arrow).

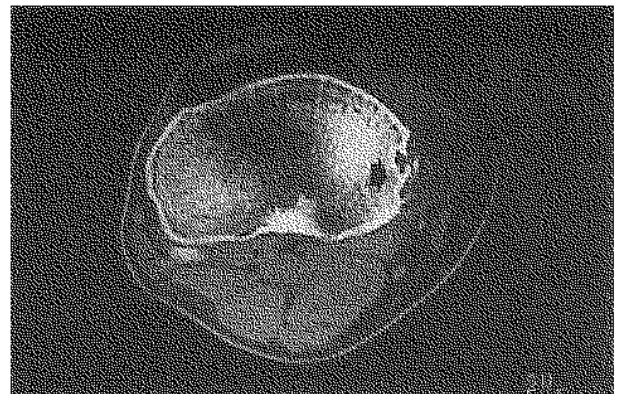


Fig. 4. — CT scan showing a multilobulated mass in the medial side of the right knee causing bone erosion in the tibial plateau (arrow).

to the joint line. The cyst was in intimate contact with the initial tibial plateau, and it had produced the pressure erosion seen in the x rays. A total meniscectomy with removal of the accompanying cystic mass was performed. Grossly, the specimen consisted of a meniscus attached to a cystic mass of $6 \times 5.5 \times 3$ centimeters. On the cut surface it was made up of multiloculated cystic spaces containing mucoid material, and light microscopy revealed fibrocartilaginous tissue with degenerative changes. The patient had full use of the knee 4 weeks postoperatively and remained asymptomatic for the follow-up period of one year.

DISCUSSION

The cause of meniscal cysts is still being debated; most authors believe that these cysts develop following trauma, although others consider that degenerative or congenital factors may be important (3, 4). The clinical signs and symptoms are rather characteristic. The presence of a mass in the joint line which varies in size when the knee is flexed and extended, being largest during extension, is highly suggestive (1). Radiographs are usually normal, although an occasional ill-defined fullness has been observed (5). They rarely erode the bone (2), and no case has been described affecting the medial tibial condyle. In arthrography the basis of diagnosis is the presence of horizontal meniscal tears that communicate with the cystic cavities. However, on the medial aspect, the cyst commonly presents as a mass lesion imprinting the synovium near the meniscus as the only abnormality encountered, and this large medial cyst usually is not associated with a meniscal tear (1). The bone scan, as in our case may show a focal area of increased activity in the eroded surface (2). The CT scan, and more recently magnetic resonance imaging, have been shown to be two excellent diagnostic methods (4).

The purpose of this article is to call attention to the meniscal cyst as a benign cause of bone erosion, even without suggestive arthrographic findings.

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SAMENVATTING

P. PERIS, J. LLENA, F. MOYA, C. VILALTA, F. MACULÉ et J. MUÑOZ-GÓMEZ. Kyste van de mediale meniscus, oorzaak van een boterosie.

De auteurs beschrijven een cyste van de mediale meniscus, die zo uitgebreid was dat een boterosie t.h.v. de mediale tibiaplateau ontstond.

Bespreking van de klinische en radiografische gegevens.

RÉSUMÉ

P. PERIS, J. LLENA, F. MOYA, C. VILALTA, F. MACULÉ et J. MUÑOZ-GÓMEZ. Kyste du ménisque interne, provoquant une érosion osseuse.

Les auteurs présentent un cas de kyste du ménisque interne, dont le volume était tellement important qu'il provoqua une érosion du plateau tibial interne.

Discussion des données cliniques et radiographiques du dossier.