A giant medial parameniscal cyst of the knee joint

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DESCRIPTION

A 34-year-old man presented with a painful large mass over the medial aspect of his left knee that enlarged during the last 6 months. The pain was increasing when standing after squatting and while descending the stairs. On physical examination, the lesion was firm and immobile and there was slight tenderness with palpation (figure 1A). Knee joint movements were normal without ligamentous instability, but McMurray test was painful in the medial meniscus. He could not remember any exact trauma. His medical history was unremarkable. Plain radiographs revealed only a faint soft tissue expansion at the level of the knee joint without any other bony lesion or deformity (figure 1B,C). MRI showed a large parameniscal cyst (50×15×42 mm) extending medially from the medial joint line, and an accompanying horizontal cleavage tear of the posterior horn of the medial meniscus communicated between the joint space and the parameniscal cyst (figure 2). The cyst was excised through a medial incision (figure 3A), and the meniscal tear was debrided and sutured using the inside-out technique with arthroscopy (figure 3B).

The two most common causes of a meniscus tear are traumatic injury (often seen in active people) and degenerative processes (often seen in the elderly). The most common mechanism of a traumatic meniscus tear occurs following a twisting/rotational injury to the knee in weight bearing. Although the injury is typical, sometimes patients do not remember one specific event that caused their pain to occur, or the event may have been very minor such as rising from a chair. A torn meniscus can prevent normal pain-free motion of the knee and therefore can interfere with the patient's ability in climbing stairs or getting in and out of chairs.

Parameniscal cysts are small cystic lesions located along the peripheral margin of the meniscus, and typically measure between 0.3 and 9 mm in diameter.¹ As parameniscal cysts are almost always (98%) associated with horizontal meniscal tears, extrusion of synovial fluid through the adjacent

Figure 2 Coronal (A) and axial (B) T2-weighted MRI shows a giant medial parameniscal cyst (asterisk). (C) Sagittal proton-density-weighted MRI demonstrates a horizontal medial meniscal tear (white arrow).

Figure 3 Macroscopic appearance of the cyst (A) and intraoperative view of the medial meniscus repair (B).

meniscal tear is a widely accepted theory regarding the aetiopathogenesis.² Although a majority of the parameniscal cysts are very small and patients almost never present with a mass around the knee, they rarely exceed 2 cm or present with a painful mass. MRI is the diagnostic method of choice for detecting meniscal cysts which can provide information about the size, location and concomitant intra-articular pathologies.³ A synovial cyst, baker cyst, ganglion cyst, bursitis, haematoma and cystic neoplasms such as synovial sarcoma should be considered in the differential diagnosis of parameniscal cysts. Open cystectomy with simultaneous arthroscopic meniscectomy or meniscal repair is usually curative.^{1–3}

Figure 1 (A) Clinical appearance of the patient (white arrow shows the swelling). Anteroposterior (B) and lateral (C) knee radiographs show a distinct lesion.

Learning points

- ▶ The two most common causes of a meniscus tear are traumatic injury (often seen in active people) and degenerative processes (often seen in the elderly).
- ▶ Meniscal cysts are rare and often are a result of extrusion of synovial fluid through a tear in the meniscus.
- ▶ Open cystectomy with simultaneous arthroscopic meniscectomy or meniscal repair has become the standard of care for the best possible outcome with pain relief and functional improvement.

To cite: Kose O, Erol B, Ozyurek S, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009440

Contributors All authors are included in writing and controlling the manuscript.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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