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Parameniscal Cyst – A Rare Cause of Popliteal Artery Compression: Treatment with Ultrasound-guided Decompression

The Editor,

Sir,

We are presenting a case of parameniscal cyst causing popliteal artery compression, which was managed successfully with excision of the parameniscal cyst, and ultrasound-guided aspiration. We believe this to be the first reported case in the literature.

Cystic lesions within the knee are quite common (1, 2). These include parameniscal cysts, ganglion cysts and Baker's cyst. Parameniscal cysts can present with pain, as a soft tissue lump and mimic a soft tissue neoplasm (2, 3).

A 43-year old fit and healthy male presented to the orthopaedic surgeon with a two-month history of medial knee pain, lump and symptoms of claudication. McMurray's test was positive. Magnetic resonance imaging (MRI) was arranged which demonstrated a horizontal cleavage tear involving the anterior horn, body and posterior horn of the medial meniscus. A large parameniscal cyst was also noted on the medial aspect intimately related to the medial meniscus and extending posteriorly into the popliteal fossa which caused at least 60% diametric compression of the popliteal artery (Fig. 1).

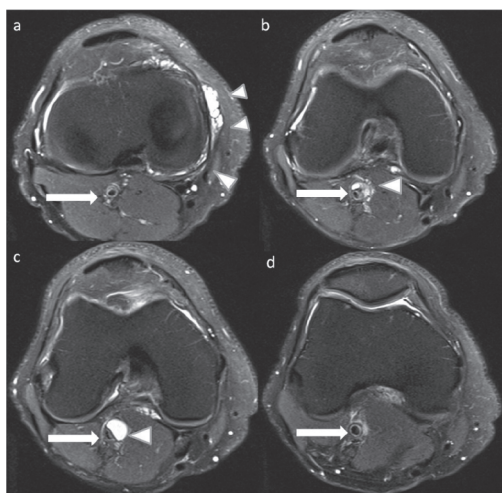


Fig. 1: STIR axial of the knee demonstrating the parameniscal cyst (arrow head) with the medial and posterior component. The posterior component is demonstrated to compress the popliteal artery (arrow); A to D are cranial to caudal slices.

An ultrasound confirmed the MRI findings (Fig. 2). The patient subsequently underwent knee arthroscopy, partial meniscectomy and excision of the medial component of the parameniscal cyst. This was followed by an ultrasound-guided aspiration and injection of 40 mg of triamcinolone and 0.5% bupivacaine of the posterior compressive component of the parameniscal cyst. The patient reported complete resolution of symptoms of claudication following the procedure. He was discharged and at the six-month follow-up, there was no recurrence of symptoms.

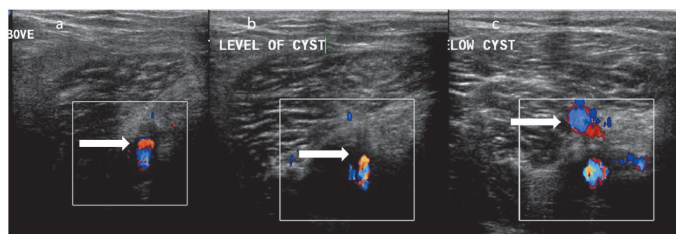


Fig. 2: Axial ultrasound images of the popliteal artery demonstrating compression of the popliteal artery by the cyst (B) as noted on magnetic resonance imaging; (A) above level of cyst and (C) is below the level of the cyst.

The aetiology of a parameniscal cyst includes degenerative disease and trauma. The prevalence of parameniscal cyst is 4% with a male predominance and cysts may present in a variety of ways including knee pain or mimics of soft tissue masses. It is managed by open excision or arthroscopic decompression with concomitant partial meniscectomy (2, 3).

In the present case, the compressive nature of the cyst resulted in continued claudication symptoms in spite of arthroscopic partial meniscectomy. An open excision through the popliteal fossa would have been both complex and fraught with potential surgical complications. In the evaluation of a patient with claudication, in addition to other causes, one should consider the rare condition of parameniscal cyst in the differentials.

Imaging and image-guided intervention are useful adjuncts providing minimally invasive treatment for the symptomatic relief of complex parameniscal lesions, especially in cases where lesions extend to adjacent large vessels, to prevent complex surgical intervention.

Keywords: Compression, parameniscal cyst, popliteal artery, ultrasound

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