E-Poster

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Role of Ultrasound in the Management of Popliteal Synovial Cyst : A Case Report

Topic: Pain

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BACKGROUND

Popliteal synovial cysts, also known as Baker's cysts, are a swelling of the knee's gastrocnemius-semimembranous bursa, which connects to the back of the synovial membrane and are typically associated with knee joint pathology like osteoarthritis, meniscal tears, or inflammatory joint diseases.

CASE DESCRIPTION

We present the case of a 22-year-old male presented with a four-year history of mechanical pain and swelling in the right popliteal fossa, with flare-ups and remissions. He had no history of trauma, diabetes, or neurological disease. The pain occurred after exertion, particularly following prolonged walking and repetitive knee movements, with a Visual Analog Scale (VAS) pain score of 4/10. The physical examination showed a solid, painless swelling in the medial popliteal fossa. Ultrasound confirmed the presence of a sizable arthrosynovial cyst. An ultrasound-guided procedure was performed, aspirating 10 ml of fluid, followed by a corticosteroid injection. A the two-month follow-up ultrasound confirmed cyst resolution, and the patient reported complete pain resolution after exertion. Physical therapy was prescribed to strengthen the quadriceps and hamstrings, enhance proprioception, and improve knee stability.

DISCUSSION

Popliteal cysts are often asymptomatic but can cause discomfort, pain, or visible swelling behind the knee. Symptoms typically worsen with activities involving knee flexion and extension. In some cases, cyst rupture can mimic deep vein thrombosis with sudden calf pain and swelling. In this case, the patient experienced exertional pain in the popliteal fossa after walking more than 1000 meters or performing repetitive knee movements. Pain intensity was rated at 4/10 on the VAS.

Popliteal cysts are primarily diagnosed clinically and confirmed via imaging, such as ultrasound or magnetic resonance imaging (MRI). In this case, ultrasound identified the cyst, differentiating it from other causes of popliteal swelling, such as deep vein thrombosis, a popliteal artery aneurysm, or soft tissue tumors.

Management depends on cyst size, symptoms, and underlying knee pathology. Asymptomatic cysts may only require observation, while symptomatic cases, like this one, benefit from intervention. The patient underwent ultrasound-guided aspiration, followed by corticosteroid injection to reduce synovial thickening. Recovery was smooth, with significant pain reduction and improved knee function.

CONCLUSION

Popliteal synovial cysts are relatively common and can cause significant discomfort. Conservative management, including cyst aspiration and corticosteroid injection, followed by physical therapy, has proven effective in alleviating symptoms and enhancing knee function. This case highlights the importance of a multidisciplinary approach in the management of popliteal cysts.

Statement of Disclosures

None

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