

Lateral Femoral Cutaneous nerve block for refractory Meralgia Paresthetica after total knee arthroplasty

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Introduction

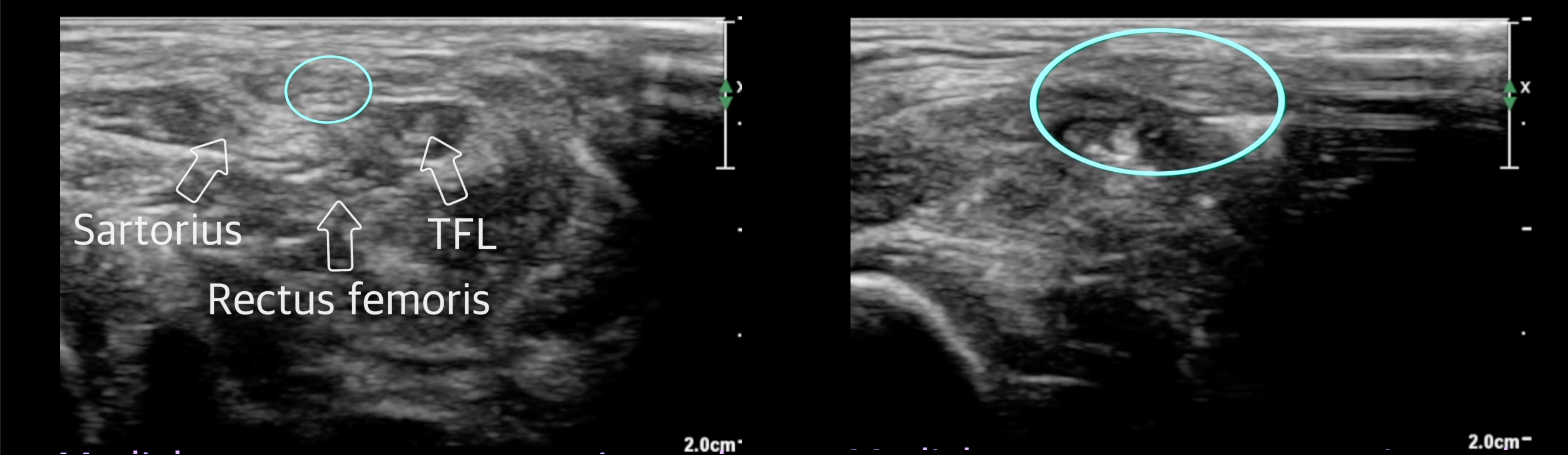
Meralgia paresthetica is a mononeuropathy involving the lateral femoral cutaneous nerve (LFCN) and resulting in pain, numbness, and paresthesias over the anterolateral thigh. It has been reported as a postoperative complication after a variety of surgical procedures, including total knee arthroplasty (TKA). We present a case of meralgia paresthetica developing after TKA.

Case Description

A 60-year-old female with bilateral knee osteoarthritis underwent an uneventful cemented TKA of her left knee. Her postoperative course was uncomplicated and she was discharged on postoperative day 3 after meeting physical therapy goals. 2 months later the patient presented to pain management clinic with a complaint of numbness, tingling, and burning pain over her left anterolateral thigh. Examination revealed decreased sensation to light touch and pinprick over the left lateral femoral cutaneous nerve distribution. Plain radiographs showed well-aligned TKA prosthesis without evidence of hardware complications. A diagnosis of meralgia paresthetica was made given the examination and timing of symptom onset.

Conservative measures were attempted without significant improvement in her symptoms. An ultrasound-guided diagnostic and therapeutic LFCN block was performed. The procedure was performed in a sterile fashion using a high-frequency linear array transducer to identify the LFCN in the proximal thigh just medial to the anterior superior iliac spine. After negative aspirations, 5 mL of 0.25% bupivacaine was injected using an in-plane approach with foraminal spread confirmed sonographically around the nerve. Sensory testing before and 15 minutes after block administration was used to assess for degree of symptomatic anesthesia within the LFCN distribution, confirming targeted nerve blockade.

Meralgia paresthetica is an uncommon complication after total knee arthroplasty. While most cases will resolve with conservative measures, refractory patients may benefit from targeted nerve blocks both for diagnosis and ongoing pain relief.



References



Results

The patient reported complete resolution of her burning pain with persistence of some residual numbness/paresthesias immediately after the block. At follow up 1 month later, her symptoms remained completely resolved.

Discussion

Meralgia paresthetica is an uncommon complication after total knee arthroplasty, with a reported incidence ranging from 0.5-4% in large case series. It involves injury to the lateral femoral cutaneous nerve (LFCN) resulting in pain, numbness, and paresthesias in the anterior and lateral thigh. The LFCN is susceptible to injury during common surgical approaches for TKA. The nerve passes closely to operative fields in anterior, anterolateral, lateral, and posterolateral approaches. Stretching of the LFCN with prolonged retraction of surrounding tissues is hypothesized to be a primary mechanism of nerve injury. Other possible causes include direct trauma from surgical dissection, tunnel placement, cautery use, bone cement toxicity, compression from hematomas, or ischemia from reduced blood flow.

Patients with meralgia paresthetica after TKA most often present 2-4 weeks postoperatively, but onset has been reported up to 6 months after surgery. The classic clinical presentation involves pain, numbness, tingling or burning sensations in the anterolateral thigh in the distribution of the LFCN. Examination shows decreased sensation to light touch, pinprick, or temperature over the lateral thigh and may reveal a positive Tinel's sign when tapping over the inguinal ligament. Imaging like MRI or radiographs can rule out compressive lesions but does not confirm diagnosis. Nerve conduction studies may show reduced amplitude over the involved nerve but are often normal.

The natural history of meralgia paresthetica following TKA is favorable. Up to 85% of patients experience gradual resolution of symptoms within 4-6 months with conservative management. For severe or refractory cases, surgical decompression of the LFCN can be considered but is rarely required. This case report serves to increase awareness of meralgia paresthetica as a potential postoperative complication after total knee arthroplasty. Early recognition allows proper diagnosis and initiation of conservative treatment. Most patients can be reassured that symptoms will slowly improve over time.