

Ultrasound-Guided Intra-Plica Steroid Injection Followed by Nerve Block for Chronic Right Knee Pain Secondary to Plica Syndrome: A Case Report

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INTRODUCTION

Plica syndrome is an underdiagnosed source of anterior or medial knee pain, especially in active individuals. It results from inflammation of a synovial fold, most often the medial plica, commonly due to trauma or repetitive stress. Ultrasound-guided corticosteroid injections serve both diagnostic and therapeutic purposes. In persistent cases, nerve blocks may provide additional relief. This case demonstrates a stepwise approach using an ultrasound-guided corticosteroid injection followed by genicular nerve block referral for refractory plica syndrome.

CASE DESCRIPTION

A 44-year-old male high school teacher presented with chronic right knee pain following a soccer injury in 2015. The pain was localized to the anterior and medial aspects of the knee and was worsened by prolonged standing, running, and sit-to-stand transitions. He also reported intermittent buckling, mechanical clicking, and medial joint line tenderness. Conservative management—including NSAIDs, topical creams, and 16 sessions of physical therapy—provided minimal relief.

X-rays were unremarkable, and MRI revealed a small suprapatellar effusion without evidence of internal derangement. Clinical examination raised suspicion for plica syndrome. An ultrasound-guided corticosteroid injection was administered to the medial plica following diagnostic confirmation with local anesthetic. The patient reported approximately 80% improvement in symptoms lasting one month.

When symptoms returned, rated at 6/10 in intensity, the patient declined further formal physical therapy but continued a home exercise program and used a compression brace as needed. Due to limited long-term response to corticosteroid injection, he was referred for genicular nerve block evaluation.



FIGURE 1: Magnetic resonance imaging of infrapatellar plica sprain in a 44-year-old male: sagittal T2 FSE FS (a and b) serial PDFS sagittal images © demonstrates hyperintense signal along the entire course of infrapatellar plica (white circles in a, b and c) having ragged margins

MATERIALS / METHODS

Ultrasound guidance was used to localize the medial plica in both transverse and longitudinal planes. A high-frequency linear transducer identified the thickened synovial fold over the medial femoral condyle. After sterile preparation, a 25-gauge needle was advanced in-plane toward the plica under continuous ultrasound visualization. A diagnostic injection of local anesthetic confirmed symptom relief, followed by a therapeutic injection of a corticosteroid preparation. Pain relief was assessed using a numeric rating scale (NRS) before injection, immediately post-injection, and at follow-up intervals. As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per SUNY Downstate policy.

DISCUSSION

Literature supports the use of genicular nerve blocks in refractory anterior knee pain, including plica syndrome, showing promising outcomes in pain reduction and improved function.

CONCLUSION

This case highlights the diagnostic and therapeutic challenges of plica syndrome, often overlooked in anterior knee pain. While corticosteroid injections may offer short-term relief, persistent symptoms may require alternative interventions. Genicular nerve blocks, studied in knee osteoarthritis, may also benefit patients with plica syndrome due to shared inflammatory mechanisms. Recent studies support their efficacy in reducing pain and improving function, suggesting that in refractory cases, genicular nerve blocks provide a minimally invasive, targeted option warranting further investigation.

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Disclosure Statement

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