

TESTICULAR PAIN STEMMING FROM SACROILIAC JOINT DYSFUNCTION: A CASE REPORT

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- Background:** Chronic orchialgia poses a diagnostic challenge as it is largely a diagnosis of exclusion. Rarely, it is linked to spinal etiologies. To date, there has only been one case report attributing orchialgia to sacroiliac joint (SIJ) dysfunction.
- Case Report:** This case report presents a 46-year-old man with chronic left orchialgia of 20 years that is improved with SIJ injection. Subsequent L5 dorsal ramus and S1-S3 lateral branch injections and radiofrequency ablation of these branches resolved the patient's symptoms, suggesting that SIJ dysfunction is the origin for his pain.
- Conclusions:** This case highlights SIJ dysfunction as an underrecognized cause of chronic orchialgia and emphasizes the importance of considering this etiology on workup and management.
- Key words:** Orchialgia, testicular pain, sacroiliac joint dysfunction, sacroiliitis, sacroiliac joint injection

BACKGROUND

Testicular pain, or also known as orchialgia, can be acute or chronic and has a wide differential. Acute pain generally necessitates prompt evaluation to rule out testicular torsion. Other causes to consider include epididymitis, incarcerated hernia, peritonitis, varicocele, kidney stone, or other upper ureteral distension causing referred pain, among others (1). Chronic orchialgia, defined as pain persisting for ≥ 3 months that interferes with daily activities, can pose more of a diagnostic challenge as it is a diagnosis of exclusion and up to 50% is idiopathic in nature (2). Tumors, iatrogenic injury from vasectomy or hernia repair, interstitial cystitis, pelvic floor dysfunction, aortic or common iliac artery aneurysms are a few causes of chronic orchialgia. While uncommon, a few case reports (3-5) link orchialgia to lumbar disc herniations and degenerative disc disease. To date, however, there is only one case report (6) attributing testicular pain to sacroiliac joint (SIJ) dysfunction. Management of sacroiliitis in this case was limited to

rehabilitation and to physical maneuvers. In this case report, we explore the resolution of chronic orchialgia following targeted interventional procedures addressing SIJ dysfunction.

CASE PRESENTATION

A 46-year-old man with schizoaffective disorder, major depressive disorder, and obstructive sleep apnea is followed in an interventional pain clinic for right lumbar radiculopathy with pain extending to the big toe. His most recent lumbar magnetic resonance imaging, in 2022, is notable for subarticular recess stenosis at L4-L5 and L5-S1, with likely contact of bilateral left more so than right L5 nerves and displacement of the descending right S1 nerve. He had been receiving caudal RACZ epidural steroid injections (ESIs) with a catheter to the right L5-S1 every 4 months, with about 50% relief of radicular pain lasting 2-3 months each time. The last ESI exacerbated his left orchialgia, making this his new predominant pain complaint rated a 7/10 in

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severity on the Numeric Rating Scale (NRS-11). Of note, interventions so far had been limited to lumbosacral transforaminal, epidural, and caudal ESIs without any targeted interventions to the SIJ.

The left orchialgia has been ongoing for 20 years without a history of trauma. He had been followed by urology until he was lost to follow-up in 2019, and at the time, his orchialgia was attributed to back-related issues, with workup only notable for left inferolateral varicocele. Pain was initially intermittent but had become persistent, increased on ambulation, and noted to be worse during periods of right low back pain exacerbations. Physical examination revealed tenderness to palpation, specifically of the left testicle, with mild, vague pain on palpation of the left suprapubic region. His symptoms presented a curious case of radicular pain and testicular pain, which, during a caudal RACZ procedure, had limited relief with significant anesthetic injected into the sacral area. Differential diagnoses included genitofemoral nerve root irritation, discogenic pain referring to the testicle, and SIJ irritation of S1-S3 nerves. The decision was made to proceed with a left genitofemoral nerve block first; however, his pain was not reproducible with pressure application over the nerve, one centimeter superolateral to the pubic tubercle, during ultrasound examination. This procedure was therefore aborted, and we instead proceeded with bilateral SIJ injections using 0.5 mL triamcinolone (40 mg/mL) and 0.5 mL 0.5% bupivacaine at each site. Needle position was confirmed with iopamidole contrast. The patient reported complete pain relief immediately after the procedure with an average pain score of 2/10 on the NRS-11 over the next month. Subsequent interventions were targeted to the left SIJ to further elucidate the etiology of his pain. We then proceeded with left L5 dorsal ramus and S1-S3 lateral branch injections using 0.5 mL 0.5% bupivacaine at each site. He again reported immediate and complete pain relief of left orchialgia and subsequently underwent radiofrequency ablation of these left lateral branches with ongoing resolution of his left orchialgia.

DISCUSSION

This patient illustrates the SIJ as a potential, yet underrecognized pain generator in chronic orchialgia. SIJ pain notoriously has a variable referral pattern, typically presenting as lumbar, gluteal, lateral hip, thigh, or even groin pain, and is believed to be related

to the complex innervation of the joint (7). However, testicular pain is generally considered a separate entity with most identifiable referred causes related to urologic, abdominal, retroperitoneal, or sometimes nerve pathologies (1,3-6). The less common referral pattern to the groin in this case presentation may be possible due to the proximity of the sacral spinal nerves to the SIJ. The lower lumbar and sacral spinal nerves innervate the testes and scrotum through multiple somatic peripheral nerves, including the genitofemoral (L1-L2), ilioinguinal (L1-L2), posterior femoral cutaneous (S1-S3), and pudendal (S2-S4) nerves (8). SIJ pathology can irritate these nearby sacral spinal nerves, causing referred pain to the testicle. As such, targeting these nerves via peripheral nerve stimulation has been shown to be beneficial for sacroiliac-mediated pain (9,10). In this patient, the absence of a clear urologic or traumatic cause, nonreproducible pain to palpation of the genitofemoral nerve, and inefficacy of various lumbar procedural interventions prompted further investigation of the SIJ. Immediate relief following targeted SIJ injections strongly suggested that SIJ dysfunction was the source of his orchialgia. After he demonstrated a therapeutic response to an SIJ injection, we decided to anesthetize the left L5 dorsal ramus and S1-S3 lateral branches, which provide sensory innervation to the SIJ. This approach, coupled with subsequent radiofrequency ablation, offers an alternative to repeated SIJ injections and reduces overall steroid use.

CONCLUSIONS

In this case, we appreciate a rare cause of testicular pain resulting from SIJ dysfunction that highlights the challenge with the diagnosis and management of chronic orchialgia. Rehabilitation and physical modalities can be utilized in managing sacroiliitis, as demonstrated by Leone et al (6); however, an SIJ injection offers a rapid diagnostic and therapeutic approach, and can potentially avoid unnecessary treatments. There are many other interventional targets to consider in the treatment of orchialgia, but this case supports the consideration of an SIJ injection before pursuing peripheral nerve blocks. While it remains prudent to explore more common etiologies of chronic orchialgia in initial workup, SIJ dysfunction should be included as a potential cause in the wide differential. Further research is needed to better understand the role of SIJ dysfunction in testicular pain and to refine diagnostic protocols.

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