



CASE STUDY: DIFFERENT CLINICAL PRESENTATION IN SACROILIAC JOINT DYSFUNCTION (SIJD)

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ABSTRACT

Introduction Sacroiliac joint (SIJ) dysfunction is a common source of low back pain². Prevalence is about 13% of patients with persistent low back pain that have the origin of pain confirmed as the SIJ. SIJ dysfunction generally refers to aberrant position or movement of SIJ structures that may or may not result in pain (Mark Laslett, 2008)¹³. Pain from the SIJ is localised to an area of approximately 3 cm × 10 cm that is inferior to the ipsilateral posterior superior iliac spine⁸. Referred pain maps from SIJ dysfunction extend in the L5-S1 nerve distributions, commonly seen in the buttocks, groin, posterior thigh, and lower leg with radicular symptoms. **Materials & Methods:** After taking written informed consent, patient was shifted to procedure room, painted and draped. Under strict asepsis using fluoroscopy guidance intraarticular SIJ injection was given by inserting 22G spinal needle into the lower posterior aspect of the SIJ. Injection consists of 2 ml 2% lignocaine, 2 ml of triamcinolone 40mg, mixed with 1 ml sterile water. **Result** Usual clinical presentation of referred pain in SIJ dysfunction extend in the L5-S1 nerve distributions so commonly seen in the buttocks, groin, posterior thigh, and lower leg with radicular symptoms¹². But, in our case patient had radiating pain to the right anterior thigh which is atypical sign of presentation in SIJD. Also, within 1 hr after the diagnostic block patient had 75% of pain reduction in the anterior thigh region. **Conclusion** SIJ dysfunction is widely overlooked as it is challenging to distinguishing it from other similarly presenting syndromes. But, with a detailed history, appropriate physical examination, imaging, and adequate response to intraarticular anaesthetic, we can reach an accurate diagnosis that will inform subsequent treatments. After the failure of conservative methods, patients with SIJ dysfunction should be considered for SI joint injection, which have proven to be a safe, effective, and viable treatment option.

KEYWORDS : SI joint dysfunction, prolotherapy, anterior thigh pain.

INTRODUCTION

SIJ dysfunction generally refers to aberrant position or movement of SIJ structures that may or may not result in pain (Mark Laslett, 2008)¹³

Sacroiliac joint (SIJ) dysfunction is a common source of low back pain². The prevalence of SIJD as the source of LBP is high. It is believed that about 13% of patients with persistent low back pain have the origin of pain confirmed as the SIJ. 15% to 30% of idiopathic low back pain is explained to be accounted for by SIJD². The location of pain upon presentation can be unilateral or bilateral but is most often not midline³. Females are more likely to present with SIJ dysfunction than males⁴.

The etiology of SIJ pain is not well understood. While the SIJ itself could be the primary source of pain, mechanical dysfunction at the joint or within the surrounding structures can alter the load-transfer function at the SIJ complex, thereby producing a painful stimulus⁵. SIJ pain can be associated with several inflammatory conditions like osteoarthritis, inflammatory arthritis, ankylosing spondylitis, infectious and post-traumatic arthritis⁶. Similarly, mechanical faults at the pubic symphysis or SIJ can result in pelvic asymmetry or joint instability⁵. SIJ stiffness, joint hypermobility, and insufficient pelvic girdle stability result in faulty load transfer to the spine or lower extremity and increased shear forces through the SIJ⁷.

The sacroiliac joint is a true diarthrodial joint. It is a synovial joint formed by the union of the ilium and the sacrum. The SI joint is a symmetrical joint (i.e. is paired) with an oblique coronal orientation and is located at the S1-3 level. It allow for minimal gliding and rotation. The SIJs are highly specialised joints that permit stable (yet flexible) support to the upper body. The sacroiliac joint contains numerous ridges and depressions that function in stability. The joint is highly dependent on its strong ligamentous structure for support and stability. Anteriorly and posteriorly, ligaments and muscles

are attached to the joint, primarily on the iliac or sacral surfaces¹³.

Pain from the SIJ is localised to an area of approximately 3 cm × 10 cm that is inferior to the ipsilateral posterior superior iliac spine⁸. Referred pain maps from SIJ dysfunction extend in the L5-S1 nerve distributions, commonly seen in the buttocks, groin, posterior thigh, and lower leg with radicular symptoms. However, this pain distribution demonstrates extensive variability among patients and bears strong similarities to discogenic or facet joint sources of LBP⁹⁻¹¹. Direct communication has been shown between the SIJ and adjacent neural structures, namely the L5 nerve, sacral foramina, and the lumbosacral plexus. These direct pathways could explain an inflammatory mechanism for lower extremity symptoms seen in SIJ dysfunction¹².

The International Association for the Study of Pain (IASP) criteria for diagnosis of SIJ dysfunction includes pain in the area of the SIJ, reproducible with provocative maneuvers, and must be relieved with local anaesthetic injection into the SIJ or to the lateral branch nerves¹⁴.

Case Description

A 37 years old female patient came to our outpatient department with chief complaints of low back pain since the past 8 month. Pain was insidious in onset, radiating to right anterior thigh, pulling sensation to the right lower limb, not associating with tingling or numbness. Pain aggravates on prolonged standing. His Numerical Rating Scale (NRS) was 8 and Verbal Rating Scale (VRS) was severe. No h/o accident, injury, other joint pain. Patient had taken a course of NSAIDs along with muscle relaxants and physiotherapy but there was no improvement in her pain.

On examination, during inspection-skin, spine curvature, contour of the muscles and gait appeared to be normal. On

palpation patient had tenderness to the right SI joint. AROM of right hip terminally restricted due to pain. No local rise in temperature, no sensory and motor deficits, all reflexes were intact. Fabers test, compression test, Distraction test, Gaenslen test were positive to the right side. Straight leg raise was negative on both side.

Therefore, after considering all the differential diagnosis we concluded that the patient had Sacroiliac Joint Dysfunction (SIJ). Hence, we proceed with SIJ injection.

After taking written informed consent, patient was shifted to procedure room, painted and draped. Under strict asepsis using fluoroscopy guidance intraarticular SIJ injection was given by inserting 22G spinal needle into the lower posterior aspect of the SIJ. Injection consists of 2ml 2% lignocaine, 2ml of triamcinolone 40mg, mixed with 1ml sterile water. After the procedure, patient had significant improvement in pain score from NRS 8 to 5 and VRS severe to moderate. Patient had significant pain relief of about 75% including the anterior thigh radiating pain.

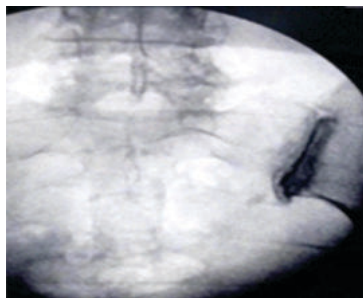


Fig: Left SI joint intra-articular infiltration

DISCUSSION

Usual clinical presentation of referred pain in SIJ dysfunction extend in the L5-S1 nerve distributions so commonly seen in the buttocks, groin, posterior thigh, and lower leg with radicular symptoms¹².

Study done by Murakami et.al concluded that in SIJD pain was detected mainly in the back, buttock, groin, and posterior thigh areas¹⁵.

Study on "Diagnosing sacroiliac joint pain" done by Thawrani et.al. result shows that SIJD pain radiates down to the posterior or lateral thigh region¹⁶.

However, in our case patient had radiating pain to the right anterior thigh which is atypical sign of presentation in SIJD.

Prospective study by Polly et.al concluded that the average pain reduction during the first hour after Sacroiliac diagnostic block was 79.3%. Six months after SIJF, the overall mean VAS SIJ pain reduction was 50.9 points (0-100 scale) and the mean ODI reduction was 24.6 points.

A systematic review of the diagnostic accuracy and therapeutic effectiveness of sacroiliac joint interventions that includes a total of 11 diagnostic accuracy studies and 14 therapeutic studies stated that, the evidence for diagnostic accuracy is Level II for dual diagnostic blocks with at least 70% pain relief as the criterion standard and Level III evidence for single diagnostic blocks with at least 75% pain relief¹⁸.

Prospective observational study done by Liliang PC et.al. showed there 26 patients (66.7%) got significant pain reduction in their study by using triamcinolone injection¹⁹.

Prospective observation study done by Ab Aziz S et.al on 31 patients shows that 85% (n=23) experienced pain relief at four

weeks, 81% (n=22) at eight weeks, and 74% (n=20) at six months by using VAS score.

Study done by Luukkainen RK et.al shows that at one month's follow-up both the VAS (p = 0.047) and the pain index (0.017) had improved significantly.

In our case also within 1 hr after the diagnostic procedure patient reported that she had 75% reduction in pain with decreased in NRS from 8 to 5 and moderate Verbal Rating Scale.

CONCLUSION

SIJ dysfunction is widely overlooked as it is challenging to distinguishing it from other similarly presenting syndromes. But, with a detailed history, appropriate physical examination, imaging, and adequate response to intraarticular anaesthetic, we can reach an accurate diagnosis that will inform subsequent treatments. After the failure of conservative methods, patients with SIJ dysfunction should be considered for SI joint injection, which have proven to be a safe, effective, and viable treatment option.

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