
CASE REPORT**Postpartum inflammatory sacroiliitis mimicking infection: A case report of diagnostic and therapeutic challenges**

Pranjali Kurhekar^{1*}, Srinidhi Narayanan¹, V. Vijay Narasimman Reddy²

¹Department of Anesthesiology and Pain Medicine, ²Department of Orthopedics, Sree Balaji Medical College and Hospital, Chennai-600044 (Tamilnadu) India

Abstract

Low back pain is common during pregnancy, often resolving postpartum. However, acute severe postpartum Sacroiliac Joint (SIJ) inflammation mimicking infection is rare. We report a case of a 25-year-old female presenting with severe right-sided low back pain radiating to the leg, two days after vaginal delivery of a stillbirth. Magnetic Resonance Imaging (MRI) suggested infective sacroiliitis, and empirical intravenous antibiotics were initiated. Despite treatment, pain persisted. A Computed Tomography (CT)-guided biopsy indicated an inflammatory process without infection. Ultrasound and fluoroscopy-guided SIJ injection of local anesthetic and corticosteroid resulted in immediate significant pain relief, with further improvement after a repeat injection two months later. This case highlights the challenges of managing peripartum sacroiliitis. MRI is the choice of diagnostic modality but tissue biopsy is recommended to differentiate between infective and inflammatory pathology. Early image-guided SIJ injection serves both diagnostic and therapeutic roles, enabling faster recovery when conservative treatment fails.

Keywords: Low Back Pain, Postpartum, Sacroiliitis, Antibiotics, Corticosteroids

Introduction

Low Back Pain (LBP) is common during pregnancy and typically resolves in the early postpartum period. The sacroiliac joint (SIJ) is a diarthrodial joint with limited motion [1]. Pregnancy-related hormonal changes cause pelvic joint relaxation, and mechanical stress makes the SIJ susceptible to pubic instability, inflammation, bone edema, and stress fractures [1-2]. Symptom onset occurs during pregnancy in 40% of cases, within three weeks postpartum in another 40%, and post-abortion in 20% [3]. Patients often present with acute low back, buttock, or hip pain radiating to the thigh, exacerbated by walking or standing [4]. Management includes NSAIDs, physiotherapy, and SIJ injections of local anesthetics (LA) with corticosteroids under fluoroscopy or ultrasound guidance. However, acute presentation during postpartum period is uncommon [4]. Septic arthritis of SIJ is a

rare condition in postpartum period in which inflammatory back pain with systemic inflammatory signs coexist, thus delaying diagnosis [5]. Septic arthritis responds to systemic antibiotics with reversal of systemic inflammatory markers. We report a case of a 25-year-old female presenting with severe back and leg pain after a stillbirth following 24 hours of membrane rupture. Magnetic Resonance Imaging (MRI) findings prompted antibiotic therapy, but persistent severe pain was later relieved by an image-guided SIJ injection of LA and corticosteroids.

Case Report

A 25-year-old female presented with severe lower back pain beginning two days after vaginal delivery of a stillborn child. Pain was localized to the right lower back, radiating along the right

posterolateral thigh and lateral leg to the lateral malleolus. She experienced pain while lying supine, was unable to lie on the affected side, and found some relief in a seated position when pressure was off the right buttock. Transitioning from sitting to standing was painful. Pain was continuous, pricking in nature, and scored 9-10/10 during walking. The patient was bedridden and dependent on a walker.

Examination showed negative straight leg raising (SLR) bilaterally and positive right-sided compression test. Other SIJ tests were not performed due to severe pain. There was tenderness at L5-S1 intervertebral disc and on the posterior superior iliac spine (PSIS). MRI revealed infective sacroiliitis with patchy subchondral sclerosis and extensive bone marrow edema extending into the sacral ala and ilium, along with widened SIJ space and adjacent muscle edema. No discrete abscess was noted. The patient was started on IV cefuroxime 1.5g twice daily for seven days, followed by piperacillin-tazobactam 4.5g thrice daily for 14 days. Oral prednisolone 4mg twice daily was

initiated and tapered to once daily over five days. Physiotherapy was started, but after steroid tapering, oral aceclofenac 100mg thrice daily was added and continued for 7 days. Despite this, pain relief was only 10%. Computed tomography (CT) guided biopsy of the right SIJ showed fragments of reactive bone marrow and necrotic bone, indicating an inflammatory process. ESR was elevated at 51mm/hr; CRP was 1.2 mg/dL, total leukocyte count was 7500 mm³. All other investigations, including thyroid and liver function tests and abdominal-pelvic ultrasound, were within normal limits. Anti-CCP antibodies and HLA-B27 were negative. An SIJ injection under ultrasound (USG) guidance was planned [6]. Using a low-frequency curvilinear probe, the sacral hiatus was identified and the probe moved laterally to locate the ilium and SIJ (Figure 1A). A 22G, 10cm needle was inserted from medial to lateral direction (Figure 1B). Position and depth of the needle was confirmed by fluoroscopy (Figures B, C).

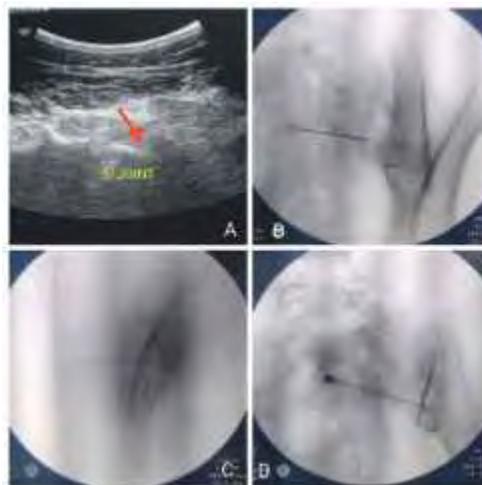


Figure 1: (A to D): Sacroiliac joint injection

Needle was advanced anteriorly by 1 mm and contrast spread was confirmed (Figure 1D). One ml each of 0.25% bupivacaine and 40mg methoxy prednisolone were injected. The patient experienced 80% pain relief immediately post-procedure, reducing to 60% over the next week with movement. Graded physiotherapy was continued, but she still required support for walking. After two months, a repeat SIJ injection provided 90% pain relief, and she was discharged.

Discussion

Pregnancy-induced SIJ bone marrow edema is common postpartum (seen in 65% of cases), but associated sclerotic erosions suggestive of spondyloarthropathy (SpA) are rare and usually asymptomatic [7, 8]. In our case, markers of SpA (HLA-B27 and anti-CCP antibodies) were negative. MRI has 100% sensitivity for detecting inflammatory causes and 100% specificity for infective causes of SIJ pathology [8]. Our patient showed joint widening with surrounding muscle edema, supporting an infective pathology [4, 8]. Patients with infective sacroiliitis usually have severe pain on sacral compression and extremely tender PSIS which were present in our patient [9]. Infection of reproductive organs was ruled out by clinical examination and imaging. Given the clinical and MRI findings and history of prolonged membrane rupture, antibiotics were started. However, lack of significant response within the typical 7-21 days suggested an alternative

diagnosis [8]. CT-guided biopsy confirmed an inflammatory, non-infective process. Percutaneous biopsy is recommended in patients diagnosed in MRI as infective sacroiliitis [9]. Doing tissue biopsy before starting antibiotics would have helped in early recovery in our case. Although SIJ referred pain rarely extends below the knee, our patient experienced pain up to the ankle. Tenderness at L5-S1 raised suspicion of lumbar pathology, but SLR was negative and MRI showed no disc or nerve root involvement. Lumbosacral facet joint pathology and hip pathology were ruled out based on clinical and imaging findings. Thus, clinical suspicion of SIJ involvement was confirmed by MRI and biopsy.

Technical success rate for USG SIJ injection is 85% and clinical efficacy is similar to fluoroscopy guided injection [10]. We did the injection by hybrid method, thus reducing the radiation, confirming correct and safe needle position and avoiding intravascular injection.

Conclusion

Acute severe postpartum inflammatory sacroiliitis can mimic infectious pathology and may be resistant to conservative management. Early image-guided SIJ injections for both diagnosis and treatment facilitate faster recovery.

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***Author for Correspondence:**

Dr. Pranjali Kurhekar, Department of Anesthesiology, Critical Care and Pain Medicine, Sree Balaji Medical College and Hospital, Chrompet, Chennai-600044, Tamilnadu Email: pranjalikurhekar@gmail.com
Cell: 9486414942

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