

General

Platelet-Rich Plasma Injections for Refractory Sacroiliac Joint Pain: A Two-Patient Case Series

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Background

Sacroiliac joint (SIJ) pain is an important source of chronic axial low back and buttock pain. Initial treatment commonly includes activity modification, physical therapy, nonsteroidal anti-inflammatory drugs (NSAIDs), and other nonopioid medications. Interventional treatment options may include corticosteroid injections, radiofrequency ablation, and, in selected refractory cases, SIJ fusion. Platelet-rich plasma (PRP) is an autologous biologic injectate that has been investigated as an alternative treatment for low back pain disorders, although the available literature remains limited and conflicting.

Case Presentation

We present two patients with refractory SIJ pain who underwent a single PRP injection after failing conservative and interventional treatment options. The first patient was a man in his 50s with persistent SIJ pain despite physical therapy, NSAIDs, and prior corticosteroid injections targeting the SIJ. Following a single PRP injection, he reported approximately 50% sustained pain relief at three-month follow-up. The second patient was a woman in her 50s with persistent SIJ pain despite physical therapy, NSAIDs, muscle relaxants, tramadol, and previous SIJ injections. Radiofrequency ablation was considered but was not covered by her insurance, and she did not wish to proceed with SIJ fusion. Following a single PRP injection, she reported approximately 75% sustained pain relief at four-month follow-up.

Conclusion

PRP injection was associated with sustained improvement in pain in two patients with refractory SIJ pain after failure of multiple conventional treatments. These cases provide additional real-world clinical observations supporting further investigation of PRP as a potential nonsurgical option for carefully selected patients with persistent SIJ pain.

INTRODUCTION

Sacroiliac joint pain is an important and frequently challenging cause of chronic axial low back and buttock pain. Estimates suggest that the SIJ may be responsible for approximately 15%–30% of chronic low back pain presentations. Diagnosis may be complicated by variability in clinical presentation, overlapping pain generators, and the complex anatomy and innervation of the SIJ.¹

Initial management typically consists of conservative measures including physical therapy, activity modification, NSAIDs, and other nonopioid medications.^{2–4} When these treatments provide inadequate relief, image-guided SIJ injections are commonly considered. Additional interventions may include radiofrequency ablation targeting the posterior sacral lateral branches and, in carefully selected patients with refractory symptoms, minimally invasive SIJ fusion.^{1,2} However, therapeutic response to injections may

be temporary, insurance coverage may limit access to certain interventions, and some patients may prefer to avoid more invasive surgical treatment.

Platelet-rich plasma is an autologous blood-derived product containing concentrated platelets and associated bioactive mediators and has increasingly been investigated for musculoskeletal pain conditions. The proposed rationale for PRP includes modulation of local inflammatory signaling and promotion of a tissue environment that may support healing and repair. Although PRP has been studied for SIJ pain, the evidence remains relatively limited. Published studies include randomized comparative trials, prospective cohorts, and small case series, with conflicting findings regarding whether PRP provides greater or more durable benefit than corticosteroid injection.^{5–9}

We present two patients with persistent SIJ pain who underwent PRP injection after failure of multiple conservative and interventional treatment strategies.

Table 1. Summary of Patient Characteristics and Outcomes Following PRP Injection

Case	Patient characteristics	Prior treatment	Additional considerations	PRP treatment	Clinical outcome
1	Man in his 50s with refractory SIJ pain	Physical therapy, NSAIDs, prior SIJ corticosteroid injections	Persistent symptoms despite conservative and injection therapy	Single PRP injection targeting the SIJ	Approximately 50% sustained pain relief at 3 months
2	Woman in her 50s with refractory SIJ pain	Physical therapy, NSAIDs, muscle relaxants, tramadol, prior SIJ injections	RFA not covered by insurance; patient declined SIJ fusion	Single PRP injection targeting the SIJ	Approximately 75% sustained pain relief at 4 months

CASE PRESENTATION

CASE 1

A man in his 50s presented with persistent pain clinically attributed to the sacroiliac joint. His symptoms remained problematic despite an appropriate course of conservative treatment, including physical therapy and NSAIDs.

The patient had also previously undergone corticosteroid injections targeting the SIJ without adequate sustained improvement. Given his persistent symptoms despite conservative treatment and prior steroid-based interventions, additional treatment options were reviewed.

The potential role of PRP for refractory SIJ pain was discussed and the patient elected to proceed with a single PRP injection targeting the symptomatic SIJ. At three-month follow-up, the patient reported approximately 50% sustained improvement in his SIJ-related pain following the PRP injection.

CASE 2

A woman in her 50s presented with persistent SIJ pain despite extensive conservative and interventional treatment. Previous treatment included physical therapy, NSAIDs, muscle relaxants, and tramadol without adequate sustained improvement. She had also undergone prior SIJ injections but continued to experience significant pain.

Additional interventional treatment options were considered. Radiofrequency ablation was discussed as a potential treatment; however, the procedure was not covered by the patient's insurance. SIJ fusion was also reviewed as a potential option for refractory symptoms, but the patient did not wish to proceed with surgical intervention.

Given the persistence of her symptoms and limited remaining nonsurgical treatment options, PRP injection was discussed and the patient elected to undergo a single PRP injection targeting the symptomatic SIJ.

At four-month follow-up, the patient reported approximately 75% sustained improvement in her SIJ-related pain following the PRP injection.

DISCUSSION

Both patients in this case series experienced clinically meaningful and sustained improvement following a single

PRP injection for refractory SIJ pain. The first patient reported approximately 50% pain relief sustained at three months, while the second patient reported approximately 75% pain relief sustained at four months. Importantly, both patients had already undergone multiple conventional therapies without adequate sustained improvement. These cases therefore represent a clinically relevant population in whom additional nonsurgical treatment options may be desirable.

The available literature evaluating PRP specifically for SIJ pain remains relatively limited and has produced mixed results. Singla et al. performed a prospective randomized study comparing ultrasound-guided leukocyte-poor PRP with corticosteroid injection in 40 patients with chronic SIJ-related low back pain. Pain outcomes favored PRP at six weeks and three months, and at three months 90% of patients receiving PRP achieved at least 50% improvement compared with 25% of patients treated with corticosteroid.⁵

In contrast, Chen et al. subsequently conducted a double-blinded randomized clinical trial in patients whose SIJ pain was confirmed by a diagnostic block producing greater than 80% relief. Both the PRP and corticosteroid groups experienced improvement in pain and function; however, corticosteroid treatment produced greater reductions in pain and a higher proportion of responders at one and three months.⁶ These differences between randomized trials illustrate the uncertainty surrounding patient selection, PRP preparation, procedural technique, and the magnitude of treatment effect.

Other prospective and observational studies have nevertheless reported encouraging outcomes. Wallace et al. evaluated 50 patients receiving ultrasound-guided PRP injections for SIJ dysfunction and demonstrated significant improvements in both Numeric Rating Scale pain scores and Oswestry Disability Index scores compared with baseline, with improvement persisting at six months.⁷ Ko et al. reported patients with chronic SIJ pain refractory to other treatments who experienced substantial improvements in pain, disability, and quality of life following PRP treatment, with benefits remaining evident at one and four years.⁸

A systematic review comparing PRP with corticosteroid injections for lumbar spondylosis and sacroiliac arthropathy concluded that both treatment strategies were associated with pain improvement. Some included studies suggested greater improvement with PRP at later follow-up, although the authors emphasized substantial heterogeneity

and the need for additional randomized trials.¹⁰ Thus, the current evidence does not establish PRP as superior to corticosteroid treatment, but it does suggest that PRP may provide clinically meaningful benefit in a subset of appropriately selected patients. The authors have previously published a case series of two patients who responded to PRP injections for facet mediated low back pain.¹¹

The second case in this series also illustrates an important real-world consideration in the management of refractory SIJ pain. Treatment algorithms may progress from conservative therapy and injections to radiofrequency ablation and ultimately SIJ fusion in selected patients. However, treatment decisions are not based solely on clinical efficacy. Insurance coverage, procedural access, patient preference, and willingness to undergo surgery may significantly affect the available options. In this patient, radiofrequency ablation was not covered by insurance and SIJ fusion was not desired. PRP therefore represented a less invasive alternative that could be considered after discussion of the limited evidence supporting its use.

Taken together, these two cases add to the limited real-world literature describing PRP treatment for SIJ pain. Both patients experienced at least 50% sustained pain relief following a single treatment despite failure of multiple prior therapies. The observed responses are encouraging but should not be interpreted as evidence that PRP is superior to corticosteroid injections, radiofrequency ablation, or other established treatment strategies. Rather, PRP may

represent an additional nonsurgical option for selected patients with persistent SIJ pain when conventional treatment has provided inadequate benefit or other interventions are unavailable or undesirable.

CONCLUSION

This two-patient case series demonstrates favorable clinical responses following a single PRP injection in patients with refractory SIJ pain who had experienced inadequate benefit from multiple conservative and interventional treatments. Pain relief of approximately 50% and 75% was sustained through three and four months, respectively. Although these observations cannot establish the efficacy or superiority of PRP, they support its continued investigation as a potential nonsurgical treatment option for carefully selected patients with persistent SIJ pain, particularly when conventional treatment has failed or other interventions are inaccessible or undesirable. Larger prospective controlled studies are needed to better define patient selection, optimal PRP preparation and injection technique, and the durability of clinical benefit.

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