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Steroid vs. Platelet-Rich Plasma in Ultrasound-Guided Sacroiliac Joint Injection for Chronic Low Back Pain.

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Abstract

BACKGROUND: Despite widespread use of steroids to treat sacroiliac joint (SIJ) pain, their duration of pain reduction is short. Platelet-rich plasma (PRP) can potentially enhance tissue healing and may have a longer-lasting effect on pain.

OBJECTIVES: To assess the efficacy and safety of PRP compared with methylprednisolone in ultrasound-guided SIJ injection for low back pain.

STUDY DESIGN: Prospective randomized open blinded end point (PROBE) study.

METHODS: Forty patients with chronic low back pain diagnosed with SIJ pathology were randomly allocated into 2 groups. Group S received 1.5 mL of methylprednisolone (40 mg/mL) and 1.5 mL of 2% lidocaine with 0.5 mL of saline, while Group P received 3 mL of leukocyte-free PRP with 0.5 mL of calcium chloride into ultrasound-guided SIJ injection. Visual analog scale (VAS) scores, Modified Oswestry Disability Questionnaire (MODQ) scores, Short Form (SF-12) Health Survey scores, and complications (if any) were evaluated at 2 weeks, 4 weeks, 6 weeks, and 3 months.

RESULTS: Intensity of pain was significantly lower in Group P at 6 weeks (median [interquartile range (IQR)] = 1 [1 to 1] vs. 3.5 [2 to 5]; $P = 0.0004$) and 3 months (Median [IQR] = 1 [1 to 3] vs. 5 [3 to 5]; $P = 0.0002$) as compared to Group S. The efficacy of steroid injection was reduced to only 25% at 3 months in Group S, while it was 90% in Group P. A strong association was observed in patients receiving PRP and showing a reduction of VAS $\geq 50\%$ from baseline when other factors were controlled. The MODQ and SF-12 scores were improved initially for up to 4 weeks but deteriorated further at 3 months in Group S, while both the scores improved gradually for up to 3 months in Group P.

CONCLUSION: The intra-articular PRP injection is an effective treatment modality in low back pain involving SIJ.

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KEYWORDS: low back pain; methylprednisolone; platelet-rich plasma; prospective randomized open blinded end point study; sacroiliac joint injection; ultrasound-guided

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