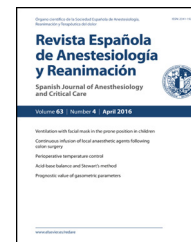




Revista Española de Anestesiología y Reanimación

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ORIGINAL ARTICLE

Sacroiliac joint pain: Prospective, randomised, experimental and comparative study of thermal radiofrequency with sacroiliac joint block[☆]



L. Cánovas Martínez^{a,*}, J. Orduña Valls^a, E. Paramés Mosquera^a,
L. Lamelas Rodríguez^a, S. Rojas Gil^a, M. Domínguez García^b

^a Unidad de Dolor, Servicio de Anestesia, Reanimación y Dolor, Complejo Hospitalario Universitario Ourense (CHUO), Ourense, Spain

^b Unidad de Dolor, Hospital Insular de Lanzarote, Arrecife, Las Palmas, Spain

Received 29 January 2015; accepted 12 August 2015

Available online 28 January 2016

KEYWORDS

Pain;
Intra-articular block;
Radiofrequency
denervation;
Palisade;
Sacroiliac joint;
Bipolar

Abstract

Objective: To compare the analgesic effects between the blockade and bipolar thermal radiofrequency in the treatment of sacroiliac joint pain.

Method: Prospective, randomised and experimental study conducted on 60 patients selected in the two hospitals over a period of nine months, who had intense sacroiliac joint pain (Visual Analogue Scale [VAS] > 6) that lasted more than 3 months. Patients were randomised into three groups (n = 20): Group A (two intra-articular sacroiliac injections of local anaesthetic/corticosteroid guided by ultrasound in 7 days). Group B: conventional bipolar radiofrequency "palisade". Target points were the lateral branch nerves of S1, S2, and S3, distance needles 1 cm. Group C: modified bipolar radiofrequency "palisade" (needle distance > 1 cm). Patients were evaluated at one month, three months, and one year. Demographic data, VAS reduction, and side effects of the techniques were assessed.

Results: One month after the treatment, pain reduction was >50% in the three groups $p < .001$. Three and 12 months after the technique, the patients of the Group A did not have a significant reduction in pain. At 3 months, almost 50% patients of the Group B referred to improvement of the pain ($p = .03$), and <25% at 12 months, and those results were statistically significant ($p = .01$) compared to the baseline. Group C showed an improvement of 50% at 3 and 12 months ($p < .001$). All patients completed the study.

[☆] Please cite this article as: Cánovas Martínez L, Orduña Valls J, Paramés Mosquera E, Lamelas Rodríguez L, Rojas Gil S, Domínguez García M. Dolor en la articulación sacroiliaca: estudio prospectivo, aleatorizado, experimental y comparativo de la radiofrecuencia térmica con el bloqueo de la articulación sacroiliaca. Rev Esp Anestesiol Reanim. 2016;63:267–272.

* Corresponding author.

E-mail address: maria.de.la.luz.canovas.martinez@sergas.es (L. Cánovas Martínez).

PALABRAS CLAVE

Dolor;
Bloqueo
intraarticular;
Radiofrecuencia
térmica;
«Palisade»;
Articulación
sacroiliaca;
Bipolar

Conclusions: Bipolar radiofrequency “palisade”, especially when the distance between the needles was increased, was more effective and lasted longer, compared to joint block and steroids, in relieving pain sacroiliac joint.

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Dolor en la articulación sacroiliaca: estudio prospectivo, aleatorizado, experimental y comparativo de la radiofrecuencia térmica con el bloqueo de la articulación sacroiliaca

Resumen

Objetivo: Comparar el bloqueo con la radiofrecuencia térmica bipolar para el dolor de la articulación sacroiliaca.

Método: Estudio prospectivo, aleatorizado y experimental en 60 pacientes, seleccionados en 9 meses en 2 centros, con dolor intenso (escala visual analógica [EVA] >6) de >3 meses de duración. Fueron divididos en 3 grupos (n=20). Grupo A: pacientes a los que se les realizaron 2 bloqueos intraarticulares, con control ecográfico en 7 días. Grupo B: radiofrecuencia bipolar «palisade» utilizando 6 agujas perpendiculares a la zona dorsal del sacro, a una distancia de 1 cm, para producir lesiones contiguas entre los forámenes S1-S2-S3 y la línea articular. Grupo C: radiofrecuencia bipolar «palisade» modificada (distancia entre agujas >1 cm). Los pacientes fueron evaluados al mes, a los 3 y a los 12 meses del tratamiento. Se valoraron los datos demográficos (en la visita basal), la eficacia analgésica y los efectos secundarios (en el resto).

Resultados: Al mes, la reducción del dolor en los 3 grupos fue >50% ($p \leq 0,001$). A los 3 y 12 meses el grupo A no refirió disminución significativa del dolor. El grupo B, a los 3 meses, alivio cercano al 50% ($p=0,03$), y <25% (23,8) a los 12 meses ($p=0,01$). En el grupo C, alivio próximo al 50% a los 3 y 12 meses ($p < 0,001$) respecto al basal. Todos los pacientes finalizaron el estudio.

Conclusiones: La radiofrecuencia bipolar «palisade», especialmente aumentando la distancia entre las agujas, ha sido eficaz, a más largo plazo, que el bloqueo con anestésicos y corticoides en el alivio del dolor de la articulación sacroiliaca.

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Introduction

The International Association for the Study of Pain (IASP) has defined sacroiliac joint (SIJ) pain as pain in the region of the sacroiliac joint that can be reproduced by clinical tests that stress the joint, and that can be relieved by selective infiltration of local anaesthetic in the affected joint. Depending on the diagnostic criteria used, between 16% and 30% of lower back pain is estimated to originate from the SIJ.¹⁻³

According to Van Zundert et al.⁴ in a recent review of evidence-based interventional pain medicine, intra-articular sacroiliac joint infiltration with local anaesthetic and corticosteroids has the highest evidence rating (1B+) (Table 1). The recommendation is also upheld in other studies.⁵ If this treatment produces only short-term effects, radiofrequency (RF) ablation can be considered. Due to the anatomical complexity of this richly innervated joint, the array of RF procedures have an evidence rating of just 2B+.

The RF bipolar “palisade” is a relatively novel method for the treatment of SIJ pain based on lesioning the lateral branch nerves instead of the S1–S3 dorsal ganglia. In theory,

bipolar RF electrode configurations driving current between 2 nearby electrode tips will create a larger lesion.⁶

The primary objective of this study was to compare the analgesic efficacy of articular infiltration with local anaesthetic and corticosteroids with bipolar RF “palisade” in the treatment of SIJ pain. The secondary objective was to determine whether increasing the distance between tips to over 1 cm would improve therapeutic outcomes.

Materials and methods

All patients signed an informed consent form after receiving information on the purpose of the research, and the study was approved by the ethics and research committees of both hospitals. This was a prospective, randomised, experimental study conducted in the Complejo Hospitalario Ourense and the Hospital Insular de Lanzarote. Both centres contributed 30 patients from their pain clinics, giving a total of 60 study subjects. The 3 study techniques were performed on all patients in an identical manner. Forty-two patients were women, and 18 were men. Mean age was $54.4 \pm$

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