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Efficacy and safety of ultrasound-guided saphenous nerve block in patients with chronic knee pain☆

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ABSTRACT

Introduction: Knee osteoarthritis is a common cause for consultation around the world. Many patients with mild symptoms respond to conservative treatment, while others require interventional therapy including peripheral nerve blocks.
Objective: To establish the clinical efficacy and safety of interventional management with ultrasound-guided saphenous nerve block in patients with chronic keen pain.
Materials and methods: Descriptive, retrospective trial in chronic keen pain patients who underwent ultrasound-guided interventional therapy at the pain clinic in the country, between September 2011 and June 2012, to determine the clinical efficacy and safety of the procedure. Data were obtained from all patients prior to the procedure, and then at two days, one month and three months later. The pain intensity was measured using the visual analog scale.
Results: 25 saphenous nerve blocks were performed. 68% of the patients experienced pain relief within two days. 56% and 40% exhibited relief one and three months after the procedure, respectively, with a statistically significant difference ($p < 0.0001$) between the baseline visual analog scale and the follow-up evaluation. Patients with a history of fibromyalgia, neuropathic characteristics and previous knee surgery exhibited variable analgesic responses to the procedure.

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Conclusions: Interventionist chronic knee pain management with ultrasound-guided saphenous nerve block was an effective and safe approach for these patients.

Eficacia y seguridad del bloqueo del nervio safeno guiado por ultrasonido en pacientes con dolor crónico de rodilla

Palabras clave:
Bloqueo nervioso
Ultrasonografía
Dolor crónico
Analgesia
Fibromialgia

RESUMEN

Introducción: La osteoartritis de rodilla es una causa común de consulta en el mundo. Muchos pacientes con síntomas leves responden a los tratamientos conservadores, y otros requieren de tratamiento intervencionista, como bloqueos de nervios periféricos.
Objetivo: Determinar la eficacia clínica y la seguridad del manejo intervencionista con bloqueo del nervio safeno guiado por ultrasonografía en pacientes con dolor crónico de rodilla.
Materiales y métodos: Estudio de tipo descriptivo retrospectivo en pacientes con enfermedad dolorosa crónica de rodilla que recibieron tratamiento intervencionista guiado por ultrasonografía en una clínica de dolor del país entre los meses de septiembre de 2011 y junio de 2012, para determinar su eficacia clínica y su seguridad. Se obtuvieron datos de todos los pacientes antes del procedimiento, a los 2 días, un mes y 3 meses después. La intensidad de dolor se midió con la escala visual analógica.
Resultados: Se realizaron 25 bloqueos del nervio safeno. El 68% de los pacientes presentaron alivio del dolor a los 2 días. El 56 y el 40% presentaron alivio al mes y a los 3 meses de realizado el procedimiento, respectivamente, con una diferencia estadísticamente significativa ($p < 0{,}0001$) entre las medianas de la escala visual analógica inicial y la escala visual analógica de los seguimientos. No se presentaron complicaciones. Los pacientes con antecedente de fibromialgia, dolor de características neuropáticas y cirugía previa de rodilla presentaron respuestas analgésicas variables con el bloqueo.
Conclusiones: El manejo intervencionista del dolor crónico de rodilla con el bloqueo del nervio safeno guiado por ultrasonografía de los pacientes observados fue una opción de tratamiento eficaz y segura.

Introduction

Knee osteoarthritis (OA) is an important public health condition worldwide. Symptoms are present in 20–30% of the population over 65 years of age with an increasing prevalence due to our aging population. The condition is characterized by chronic joint pain that impacts the quality of life.[1–3] The diagnosis is based on X-ray findings, although 50% of the patients with radiological changes do not present clinical symptoms.[3]

Most patients with mild knee OA symptoms respond to conservative treatment such as physical therapy, anti-inflammatory agents, and hyaluronic acid injections, among others. However, these therapies are not enough for patients with severe symptoms. Total knee arthroplasty is the only valid and reliable treatment to relieve refractory joint pain of the osteoarthritic knee, but there are some patients with high surgical risks and others who are not willing to undergo surgery.[1] Therefore, other minimally invasive therapeutic options have been included, such as ultrasound-guided saphenous nerve block, also used for other indications such as arthroscopy analgesia, ankle and varicose veins surgery, for the treatment of saphenous nerve chronic neuralgia, and verve entrapment at the adductors canal.[4]

Ultrasound guidance has improved the safety of these techniques since it lends itself to using a smaller volume of local anesthetic agent and thus avoids systemic toxicity, shortens the time required for the block, requires less needle insertions and provides faster onset of action. Moreover, this approach reduces the risk of accidentally puncturing other structures since it enables the visualization of the peripheral nerves, of the neighboring structures and of the needle. There are few disadvantages including limited availability and the need for an additional training.[5–9]

Due to the little information available about the efficacy of the saphenous nerve block in chronic knee pain, the purpose of this article was to determine the efficacy of the saphenous nerve block in chronic knee pain.