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Efficacy of epidural methylprednisolone in radicular pain☆

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ABSTRACT

Introduction: Degenerative disc disease is a prevalent and disabling disease. When the conservative treatment fails to obtain pain relief, epidural steroids are an alternative frequently used worldwide.
Objectives: To evaluate the efficacy and safety of epidural methylprednisolone in patients with radicular pain.
Methodology: Descriptive longitudinal retrospective study in patients with chronic radicular pain who received fluoroscopy-guided interventional treatment, between July 2010 and December 2011 at Instituto Colombiano del Dolor (Medellín-Colombia), to determine the efficacy and safety of epidural methylprednisolone in clinical practice. Pain relief was followed using the visual analogue scale, during at least 8 weeks.
Results: 254 patients were analyzed. The mean age of the patients was 52.8 years (SD ± 15); 52.8% were men. The main diagnosis was lower-limb radicular pain (87.7%). The most frequent procedures were transforaminal lumbar injection (54.3%) and interlaminar lumbar injection (17.7%). The proportion of patients with more than 50% pain relief 50% was 85.8%. There were no differences in efficacy between the procedures. Pain improvement lasted more than 8 weeks in 55% of patients. The incidence of complications was lower than 1%.
Conclusions: When radicular pain is refractory to conservative treatment based on pharmacological and physical therapy, epidural methylprednisolone is an effective and safe method in our setting.

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Eficacia de la metilprednisolona epidural en el dolor radicular

Palabras clave:
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RESUMEN

Introducción: La enfermedad discal degenerativa es una enfermedad muy prevalente e incapacitante. Cuando el manejo conservador falla los esteroides epidurales son una alternativa de uso frecuente en todo el mundo.

Objetivos: Evaluar la eficacia y seguridad de la metilprednisolona epidural en pacientes con dolor radicular.

Metodología: Estudio descriptivo longitudinal retrospectivo, en pacientes con dolor radicular crónico que recibieron tratamiento intervencionista guiado por fluoroscopia en el Instituto Colombiano del Dolor (Medellín-Colombia) en el período comprendido entre julio de 2010 y diciembre de 2011, para determinar la eficacia clínica y seguridad de la metilprednisolona epidural. Se realizó seguimiento del control del dolor medido por escala visual análoga por al menos 8 semanas.

Resultados: Se analizaron 254 pacientes. La edad promedio de los pacientes intervenidos fue de 52,8 años (DE ± 15), el 52,8% fueron hombres. El principal diagnóstico fue el dolor radicular en los miembros inferiores (87,7%). Los procedimientos más frecuentes fueron; inyección transforaminal lumbar (54,3%) e inyección interlaminar lumbar (17,7%). El 85.8% de los pacientes presentó disminución del dolor mayor al 50%. No hubo diferencias en la eficacia entre los diferentes bloqueos. En el 55% de los pacientes el tiempo de mejoría fue superior a 8 semanas. La incidencia de complicaciones fue menor al 1%.

Conclusiones: Cuando el dolor radicular es refractario al tratamiento conservador basado en terapia farmacológica y física, la metilprednisolona epidural es un método eficaz y seguro disponible en nuestro medio.

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Introduction

Chronic pain is one of the main reasons for visits to the emergency services as well as for general and specialized medical consultations. It has a significant impact on quality of life, leading to multiple instances of absence from work, and has a high impact on healthcare costs.[1–5]

Spinal pain is one of the most common forms of chronic pain.[6] Between 70% and 80% of the population will suffer from lumbar pain during their lifetime. It is estimated that prevalence ranges between 12% and 15%, although it may be as high as 28–40%, depending on the different studies.[8–11] National statistics for the United States show that chronic lumbar pain is the most frequent cause of functional limitation in people over 45 years of age, the second cause of visits to medical doctors, fifth cause of admission and third reason for surgery.[8,12,13] Cervical and dorsal pain has also increased as a result of longer life expectancy.[14]

The aetiology of cervical, dorsal and lumbar pain is quite broad, including muscle disorders, disc disease,[15] bone diseases, primary or metastatic vertebral tumours,[16,17] spinal cord, cone or cauda equina tumours, intra-abdominal or retroperitoneal tumours, vertebral fractures or dislocations, ankylosing spondylitis, lumbar arthrosis, vertebral-epidural infections or abscesses, diabetic neuropathy, congenital abnormalities, among others.[18–21]

Vertebral and disc disease may produce mechanical nerve-root compression, while the local inflammatory effects of cytokines lead to reduced blood flow, intravascular coagulation and reduced nerve conduction velocity, affecting spinal nerve transmission and creating pain with a dermatome pattern called radicular pain.[7,22,23]

Discussed in the literature since 1950,[18] following the initial experiences by Jean Enthuse Sicard and Fernand Cathelin, epidural steroid injections are the cornerstone in the treatment of axial as well as radicular chronic pain.

Steroids are a therapeutic option when conservative treatment has failed, pain relief being the result of reduced oedema and improved microcirculation.[24,25]

Because of their inhibitory effect on different cytokines, steroids have a potent anti-inflammatory effect and also variable results in terms of membrane stabilization, hyperpolarization of spinal neurons and c-fibre transmission inhibition. Epidural steroids are preferred over oral and intravenous steroids because they act on more specific targets.[7]

The epidural space may be accessed through the caudal, interlaminar and transforaminal approaches. It is recommended, within the basic care standards, that all procedures be guided by fluoroscopy in order to increase safety and the probability of success.[18]

For this reason, a study addressing the question "Is epidural methylprednisolone effective and safe in radicular pain?" is described below.

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