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REVIEW

Consensus recommendations for anaesthetic peripheral nerve block☆

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Abstract
Introduction: Anaesthetic block, alone or in combination with other treatments, represents a therapeutic resource for treating different types of headaches. However, there is significant heterogeneity in patterns of use among different professionals.
Development: This consensus document has been drafted after a thorough review and analysis of the existing literature and our own clinical experience. The aim of this document is to serve as guidelines for professionals applying anaesthetic blocks. Recommendations are based on the levels of evidence of published studies on migraine, trigeminal autonomic cephalalgias, cervicogenic headache, and pericranial neuralgias. We describe the main technical and formal considerations of the different procedures, the potential adverse reactions, and the recommended approach.

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Conclusion: Anaesthetic block in patients with headache should always be individualised and based on a thorough medical history, a complete neurological examination, and expert technical execution.

PALABRAS CLAVE
Bloqueo anestésico;
Cefalea en racimo;
Cefalea cervicogénica;
Migraña;
Nervio occipital mayor;
Neuralgia pericraneal

Guía consenso sobre técnicas de infiltración anestésica de nervios pericraneales

Resumen
Introducción: Los bloqueos anestésicos constituyen un recurso terapéutico para el manejo de distintos dolores de cabeza, de forma aislada o combinado con otros tratamientos. Sin embargo, existe una importante heterogeneidad en los patrones de uso entre los distintos profesionales.
Desarrollo: A partir de una exhaustiva revisión y análisis de la bibliografía existente y de nuestra experiencia clínica se ha elaborado este documento de consenso cuyo objetivo es servir como guía para aquellos profesionales que quieran aplicar estas técnicas. Se establecen recomendaciones basadas en los niveles de evidencia que ofrecen los estudios revisados en migraña, cefaleas trigémino-autonómicas, cefalea cervicogénica y neuralgias pericraneales. Se describen los principales aspectos técnicos y formales de los diferentes procedimientos, así como las posibles reacciones adversas que pueden surgir y la actitud recomendada.
Conclusiones: El tratamiento con bloqueos anestésicos del paciente con cefalea debe ser siempre individualizado y basarse en una correcta anamnesis, exploración neurológica y ejecución técnica.

Introduction

Anaesthetic block (AB), a treatment used to manage different types of headache, may be used in monotherapy or combined with other treatments. Several decades have now passed since doctors began to perform AB on different cranial or cervical nerves in patients with various types of headache and craniofacial neuralgia, and experience has continued to increase in recent years. Local anaesthetics act as reversible inhibitors of the production and conduction of stimuli in any type of excitable membranes, especially those in nervous tissue. When these anaesthetics come into contact with a nerve fibre, they cross the myelin sheath and the neural membrane in a non-ionised form. Once within the cell, they become partially ionised, and the ionised fraction binds to the inner pore of the voltage-gated sodium channel, thus keeping it from opening and preventing firing and propagation of the action potential. This is the mechanism by which local anaesthetics are able to inhibit nerve impulse conduction.[1]

The technique most commonly used in clinical practice is blockade of the greater occipital nerve (GON). A growing body of scientific evidence supports the modulating effect of the occipital nerves on the nociceptive afferents carried by the trigeminal nerve. At the highest segments of the cervical spinal cord, sensory neurons corresponding to the occipital region are interwoven with neurons from the spinal trigeminal nucleus. From a functional standpoint, there is also a convergence of cervical and trigeminal fibres over the same second-order neurons. By blocking the arrival of nociceptive impulses via the first cervical nerves, AB may act on this trigeminal-cervical complex by inhibiting transmission from trigeminal afferents as well.[2,3]

Medical literature now contains numerous descriptions of patients treated with AB. However, current usage patterns vary considerably among different professionals. In 2012, the Annual Meeting of the Spanish Society of Neurology (SEN) displayed results from a survey sent to the members of the SEN study group for headaches (GECSEN) inquiring about use of AB.[4] The survey revealed frank disparities in the technical and formal considerations, which is what motivated us to draw up a consensus statement.

Based on an exhaustive literature review and analysis, as well as on our clinical experience, we prepared this consensus document to provide guidelines for doctors interested in applying these techniques. Levels of evidence and grades of recommendation are defined according to the classification proposed by the Centre for Evidence Based Medicine at the University of Oxford.[5] Recommendations for each headache type and the most important considerations for each of the procedures appear summarised in table form for ease of use.

Use of anaesthetic block for different headache types

Migraine

The first placebo-controlled double blind trial to examine migraine prevention by means of GON blockade was carried out by Piovesan et al.[6] in a sample of 37 patients with