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Review

Botulinum toxin for the treatment of chronic pain. Review of the evidence☆

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ABSTRACT

Introduction: Chronic pain is one of the primary reasons why people seek medical help. It produces functional limitation, affects mood, and impairs job performance. Many times it is difficult to manage and responds poorly to pharmacological therapies, posing a challenge for the multidisciplinary team in charge of treating this disorder. A number of approaches to relieve pain are the subject of growing research, including the application of agents such as botulinum toxin on painful points.

Objective: To carry out a non-systematic narrative review of the scientific evidence available on the use of botulinum toxin for the treatment of chronic pain.

Materials and methods: A search was conducted in the PUBMED database, including meta-analyses, systematic reviews, Cochrane reviews, clinical trials, narrative reviews and case series, published between 1997 and 2013, in order to carry out a non-systematic narrative review.

Results: Overall, 66 articles were considered for an update on the proposed topic.

Conclusions: Botulinum toxin has certain properties that might have a beneficial effect on chronic pain. However, there is not sufficient evidence supporting its use in the majority of indications in this group of patients. Additional studies are required to recommend its use. Ultrasound is considered a useful tool to guide its application.

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Toxina botulínica para tratamiento del dolor crónico. Revisión de la evidencia

Palabras clave:
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Dolor crónico
Toxinas botulínicas
Trastornos migrañosos
Ultrasonografía

RESUMEN

Introducción: El dolor crónico es una de las principales causas de consulta médica, produce limitación funcional, altera el estado del ánimo y disminuye el rendimiento laboral. En muchas ocasiones es de difícil manejo y pobre respuesta a terapias farmacológicas, generando un reto para el equipo interdisciplinario que trata esta enfermedad. Cada día se investigan más métodos enfocados a aliviar el dolor, entre ellos la aplicación de sustancias como la toxina botulínica en los puntos dolorosos.

Objetivo: Realizar una revisión narrativa no sistemática sobre la evidencia científica disponible acerca del uso de la toxina botulínica en el tratamiento del dolor crónico.

Métodos y materiales: Se realizó una búsqueda en la base de datos PUBMED, que incluyó artículos de metaanálisis, revisiones sistemáticas, revisiones de Cochrane, ensayos clínicos, revisiones narrativas y series de casos, entre 1997 y 2013, para la realización de una revisión narrativa no sistemática.

Resultados: Se tuvieron en cuenta un total de 66 artículos para la realización de la actualización en el tema propuesto.

Conclusiones: La toxina botulínica presenta propiedades que posiblemente puedan tener algún beneficio en el área del dolor crónico. Sin embargo, no existe suficiente evidencia que soporte su uso en la mayoría de sus indicaciones en este grupo de pacientes. Se requieren más estudios para recomendar su uso. La guía ultrasonográfica es considerada una herramienta útil en su aplicación.

Introduction

Chronic pain is one of the main reasons why patients seek help and are seen in the emergency services. It is an unpleasant experience that prevails throughout time, affecting quality of life and mood, and creating functional impairment and sleep disorders; it also destroys personal relations and is a cause of frequent work absenteeism. All of these are reflected in high costs for the healthcare system.

Because of all these reasons, relief of chronic pain is critical. There are many therapeutic options, always starting with conservative approaches such as local measures, simple analgesics, suppressing trigger factors, and changes in lifestyle. Analgesic potency is escalated depending on the individual response to those initial therapies.

In many patients, pain relief with drugs is impossible to achieve or there is a need to interrupt their use because of side effects. This creates the challenge for the multidisciplinary team of finding other alternatives, including the use of botulinum toxin (BT). This use is the topic of this review, which seeks to provide recommendations based on the scientific evidence available at the present time.

Materials and methods

A search was conducted in the PUBMED database, including meta-analyses, systematic reviews, Cochrane reviews, clinical trials, narrative reviews and case series, published between 1997 and 2013, in order to carry out a non-systematic narrative review.

Results

A total of 66 articles were taken into account to update the proposed theme (Fig. 1).

History

In 1897, Van Ermengem identified BT as a cause of fatal food poisoning. In 1949, botulinum toxin type A (BTA) was shown to block neuromuscular junction transmission. In 1989, the Food and Drug Administration of the United States (FDA) approved the use of BTA in the management of strabismus, blepharospasm and hemifacial spasm in patients over 12 years of age. In 1992, otolaryngologist William Binder reported that the cosmetic application of BTA for the correction of facial lines produced significant improvement in individuals with migraine. In 2000, BT was approved by the FDA for cervical dystonia, and in 2002 it was approved for the temporal management of glabellar lines in patients less than 65 years of age.[1]

Characteristics

BT is the fermentation product of the bacterium *Clostridium botulinum*. It is a Gram-positive anaerobic bacterium found in