

Gabapentin for Adults With Neuropathic Pain: A Review

Context

Neuropathic pain is complex and difficult to treat. It includes conditions such as painful diabetic neuropathy, postherpetic neuralgia, spinal cord injury-related neuropathic pain, trigeminal neuralgia, and fibromyalgia. Treatment typically includes both pharmaceutical and physical therapies. Gabapentin is one pharmaceutical that is used for neuropathic pain.

Technology

Gabapentin, an anticonvulsant originally developed for the treatment of epilepsy, is used off-label for treating neuropathic pain. It is thought to work by binding to calcium channels and modulating calcium influx or by blocking new synapse formation, thus inhibiting the transmission of nerve signals in the brain.

Issue

There have been reports of misuse of gabapentin, and also of black-market sales and trading in correctional facilities. There is also evidence that, in high doses, gabapentin may be associated with sedative and dissociative or psychedelic effects. A review of the clinical effectiveness of gabapentin compared with tricyclic antidepressants, serotonin-norepinephrine reuptake inhibitors, and pregabalin for treating neuropathic pain; the evidence on the abuse or misuse potential of these medications; and the guidelines for the use of gabapentin will help to inform treatment decisions for patients with neuropathic pain.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved

publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- For the short-term treatment of painful diabetic neuropathy, postherpetic neuralgia, and fibromyalgia, gabapentin may be as effective as tricyclic antidepressants, serotonin-norepinephrine reuptake inhibitors, or pregabalin (based on indirect evidence).
- No information was found on the comparative effectiveness of the treatments for other types of neuropathic pain.
- Pregabalin and gabapentin may be used as recreational drugs, but the prevalence of and risk of misuse among patients prescribed drugs to manage neuropathic pain is not known.
- United Kingdom guidelines support the use of gabapentin, amitriptyline, duloxetine, or pregabalin as first-line therapy for neuropathic pain, except for patients with trigeminal neuralgia.

Results

The literature search identified 792 citations, plus 7 articles identified from other sources. After screening the abstracts, 57 studies were deemed potentially relevant, and 12 reports were summarized — 3 systematic reviews, 1 randomized controlled trial, 6 non-randomized studies, and 2 guidelines.

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