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## [Botulinum toxin and painful peripheral neuropathies: what should be expected?].

[Article in French]

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### Abstract

Botulinum toxin type A (BTX-A) is a potent neurotoxin that blocks acetylcholine release from presynaptic nerve terminals by cleaving the SNARE complex. BTX-A has been reported to have analgesic effects independent of its action on muscle tone. The most robust results have been observed in patients with neuropathic pain. Neuropathic pain due to peripheral lesions has been the most widely studied. BTX-A has shown its efficacy on pain and allodynia in various animal models of inflammatory neuropathic pain. The only randomized, double-blind, placebo-controlled trial in patients with focal painful neuropathies due to nerve trauma or postherpetic neuralgia demonstrated significant effects on average pain intensity from 2 weeks after the injections to 14 weeks. Most patients reported pain during the injections, but there were no further local or systemic side effects. The efficacy of BTX-A in painful peripheral neuropathies has been more recently studied. Results were positive in the only study in an animal model of peripheral neuropathy. One study in patients with diabetic painful peripheral neuropathy demonstrated a significant decrease in Visual Analog Scale. In conclusion, one session of multiple intradermal injection of BTX-A produces long-lasting analgesic effects in patients with focal painful neuropathies and diabetic neuropathic pain, and is particularly well tolerated. The findings are consistent with a reduction of peripheral sensitisation, the place of a possible central effect remaining to define. Further studies are needed to assess some important issues, i.e. BTX-A efficacy in patients with small fiber neuropathies and the relevance of early and repeated injections. Future studies could also provide valuable insights into pathophysiology of neuropathic pain.

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