Gabapentin

Gabapentin (GBP) was approved on January 1994 as adjunctive treatment in patients 12 years or older with partial seizures, with or devoid of secondary generalization. GBP, was formerly known as an anticonvulsant γ-aminobutyric acid (GABA) mimetic, is considered a safe and well-tolerated antiepileptic drug (AED) with promising pharmacokinetic properties and a wide therapeutic index.

Indications

Effective in postherpetic neuralgia (PHN) and painful diabetic neuropathy. Benefit also reported in pain associated with trigeminal neuralgia, cancer [1], multiple sclerosis, HIV-related sensory neuropathy, CRPS, spinal cord injury, postoperative state [2], migraine [3] (a number of these studies may have been sponsored by the manufacturer [4]).

GBP is useful for the therapy of mixed seizure disorders and refractory partial seizures in children. GBP must be regarded as the first treatment for older patients with recently diagnosed seizures. GBP has a well recognized clinical efficacy in those types of focal epilepsy which were resistant to the traditional AEDs. The main object of this review was to evaluate the efficacy, tolerability, dosing schedules and safety of GBP that have been investigated in peer-reviewed journals [5].

Gabapentin (Neurontin) is a GABA analog. It was originally developed to treat epilepsy, and currently is also used to relieve neuropathic pain. It is also commonly prescribed for many off-label treatments, such as restless leg syndrome, insomnia, and bipolar disorder. There are, however, concerns regarding the quality of the trials conducted for a number of conditions.

Preoperative pregabalin administration is associated with less pain intensity and improved functional outcomes 3 months after lumbar discectomy followed by gabapentin and then placebo.Level of Evidence: 2 [6].

Evidence

There is high-quality evidence that Nonsteroidal anti-inflammatory drugs reduces pain up to 24 hours postoperatively. The evidence for reductions in pain with dexmedetomidine, pregabalin or gabapentin, scalp blocks, and scalp infiltration is less certain and of very low to moderate quality. There is low-quality evidence that scalp blocks and dexmedetomidine may reduce additional analgesics requirements. There is low-quality evidence that gabapentin or pregabalin may decrease nausea and vomiting, with the caveat that the total number of events for this comparison was low [7].

Side effects

Common side effects of Neurontin can include:

dizziness, drowsiness, unsteadiness, memory loss, lack of coordination, difficulty speaking, viral infections, tremors, double vision, blurred vision, fever, unusual eye movements, jerky movements, weakness, tired feeling, nausea, diarrhea, constipation, headache, breast swelling, dry mouth, mood or behavior changes, depression, or anxiety.

1)
Bennett MI, Simpson KH. Gabapentin in the treatment of neuropathic pain. Palliat Med. 2004; 18:5–11
2)
Dierking G, Duedahl TH, Rasmussen ML, et al. Effects of gabapentin on postoperative morphine consumption and pain after abdominal hysterectomy: a randomized, double-blind trial. Acta Anaesthesiol Scand. 2004; 48:322–327
3)
Mathew NT, Rapoport A, Saper J, et al. Efficacy of gabapentin in migraine prophylaxis. Headache. 2001; 41:119–128
4)
Gabapentin (Neurontin®) for chronic pain. Med Letter. 2004; 46:29–31
5)
Honarmand A, Safavi M, Zare M. Gabapentin: An update of its pharmacological properties and therapeutic use in epilepsy. J Res Med Sci. 2011 Aug;16(8):1062-9. PubMed PMID: 22279483; PubMed Central PMCID: PMC3263084.
6)
Khurana G, Jindal P, Sharma J, Bansal K. Post Operative Pain and Long Term Functional Outcome Following Administration of Gabapentin & Pregabalin in Patients Undergoing Spinal Surgery. Spine (Phila Pa 1976). 2013 Dec 30. [Epub ahead of print] PubMed PMID: 24384657.
7)
Galvin IM, Levy R, Day AG, Gilron I. Pharmacological interventions for the prevention of acute postoperative pain in adults following brain surgery. Cochrane Database Syst Rev. 2019 Nov 21;2019(11). doi: 10.1002/14651858.CD011931.pub2. Review. PubMed PMID: 31747720.