Pregabalin for Neuropathic Pain

- Rare case of schwannomatosis presenting with cauda equina syndrome: a case report
- Oral cannabinoid formulation elevates sensory nerve conduction velocity and mitigates oxidative stress to alleviate neuropathic pain in rats
- Crisugabalin, a ligand for the α₂δ subunit of voltage-gated calcium channels, exhibits no obvious abuse potential in rodents
- Evaluating pregabalin in cancer patients with chronic neuropathic pain and depression: an observational case series
- Mirogabalin and pregabalin alleviate nociplastic sensitization induced by chemogenetic activation of the central amygdala neurons in rodents
- Prevalence and factors associated with cancer-related neuropathic pain among cancer patients in Nigeria - a single-center cross-sectional study
- From Short-Term Relief to Long-Term Management: A Meta-Analysis of Temporary Spinal Cord Stimulation and Pulsed Radiofrequency in Postherpetic Neuralgia
- A scientometric study on research trends and characteristics of burning mouth syndrome

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Pregabalin is often prescribed for neuropathic pain conditions, such as diabetic neuropathy, postherpetic neuralgia, and peripheral neuropathy.

Neuropathic pain can be a component of radiculopathy. When the nerve roots are compressed or irritated in radiculopathy, it can lead to abnormal signaling and sensations, contributing to neuropathic pain.

Radiculopathy is a specific anatomical condition involving the spinal nerves, whereas neuropathic pain is a broader term describing pain resulting from nerve damage or dysfunction.

In summary, while radiculopathy involves compression or irritation of spinal nerve roots, neuropathic pain is a broader term referring to pain arising from damage or dysfunction of the nervous system. Radiculopathy can be a specific cause of neuropathic pain when it affects the nerves exiting the spinal cord.

The probable mechanism of action is to reduce the release of several excitatory neurotransmitters by inhibiting calcium influx via the calcium channels [1) 2) 3) 4)].

Pregabalin is pharmacologically superior to gabapentin due to its higher bioavailability (90% vs. 33%–66%), more rapid absorption (peak plasma level: 1 hr vs. 3–4 hrs) and linear increase in plasma concentration when its dose is increased. Lower doses of pregabalin than that of gabapentin (2–4 fold lower doses) have a similar analgesic effect on neuropathic pain, which makes pregabalin more advantageous in terms of the side effects from dosage [5) 6) 7)].

Perioperative PG administration reduces early postsurgical pain at rest and particularly during movement after major spine surgery with less opioid consumption, and it seems to influence the

improvement of overall QoL 3 months after surgery [8].

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 [9].

Both pregabalin 300 mg day-1 and gabapentin 1,200 mg day-1 have more analgesic, anxiolytic and opioid-sparing effects, higher patient satisfaction and are more effective for preventing postoperative shivering than the placebo following lumbar laminectomy and discectomy. Findings revealed that pregabalin 300 mg day-1 had equivalent analgesic, adverse and opioid-sparing effects and patient satisfaction as gabapentin 1,200 mg day-1 [10].

Combined administration of pregabalin and dexamethasone conferred analgesic benefits superior to those of pregabalin alone. This regimen also helped facilitate return to normal daily activity after surgery [11].

Dose

Perioperative administration of pregabalin 150 mg before and 12 hours after surgery, but not 75 mg, significantly reduced opioid consumption and the use of additional pain rescue for 48 hours after surgery without significant side effects in patients undergoing spinal fusion surgery [12].

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 [13].

Pregabalin for chronic low back pain treatment

- Prescription of Controlled Substances: Benefits and Risks
- Control of neuropathic pain in lumbosacral dorsalgia
- Non-opioid psychiatric medications for chronic pain: systematic review and meta-analysis
- Notalgia Paresthetica Dermatologist Report of Symptom Burden and Treatment: Results from a Physician Survey
- Evaluation of the Efficacy of Caudal Epidural Neuroplasty in Patients With Lumbar Epidural Fibrosis
- Pregabalin Dependence and Management in a 55-Year-Old Female with Chronic Low Back Pain
- Effectiveness of pharmacological and non-pharmacological therapy on pain intensity and disability in older people with chronic nonspecific low back pain: a systematic review with meta-analysis
- Pregabalin and gabapentin for chronic low back pain without radiculopathy: a systematic review

Gabapentin and pregabalin are often used in the treatment of patients without associated radiculopathy or neuropathy. Therefore, determining their efficacy and safety is of enormous value.

Tatit et al. performed a search on the CENTRAL, MEDLINE, EMBASE, LILACS, and Web of Science databases for clinical trials, cohorts, and case-control studies that evaluated patients with CLBP without radiculopathy or neuropathy for at least eight weeks. The data were extracted and inserted into a previously prepared Microsoft Excel spreadsheet; the outcomes were evaluated using the Cochrane RoB 2 tool, and the quality of evidence, using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

Of the 2,230 articles identified, only 5 were included, totaling 242 participants. In them, pregabalin was slightly less efficacious than amitriptyline, the combination of tramadol/acetaminophen, and celecoxib, and pregabalin added to celecoxib showed no benefit when compared to celecoxib alone (very low evidence for all). On the other hand, although one study with gabapentin did not support its use in a general sample of patients with low back pain, another found a reduction in the pain scale and improved mobility (moderate evidence). No serious adverse events were observed in any of the studies.

Quality information to support the use of pregabalin or gabapentin in the treatment of CLBP without radiculopathy or neuropathy is lacking, although results may suggest gabapentin as a viable option. More data is needed to fill this current gap in knowledge [14].

Pregabalin for radiculopathy

Pregabalin for radiculopathy.

Case series

Of 105 patients who entered the run-in period, 47 patients (44.8%) were female and 58 (55.2%) were male. The Patients radicular pain mean score based on Numerical scale system (NRS) estimated before surgery was 7.22±1.95 in pregabalin14, 7.71±1.84 in pregabalin1 and 7.45±1.9 in control group. There were no statically significant differences between three groups (P-Value>0.05). The Patient back pain mean score based on NRS was 5.2±2.87 in pregabalin14, 5.11±3.23 in pregabalin1 and 6.4±3.06 in control group. This means that there were no significant differences in the overall score among those three groups (P-Value>0.05). In comparison to their preoperative pain, the average radicular pain in each group of patients improved significantly 4, 8, 12 and 24h after the operation (P-Value<0.001), but there were no significant differences in radicular pain improvements comparing three groups.

The results of this study indicate that 1day and 2 weeks post-operative 300mg pregabalin administration may not improve acute pain, morphine consumption and quality of life of patients after surgery. It seems that the diseases cause chronic pain that requires long-term treatment with higher doses [15].

Supratrochlear neuralgia- Supraorbital neuralgia Gabapentin (800–2400 mg/d) or pregabalin (150 mg/d) is helpful for some [16].

Pregabalin for Diabetic neuropathy

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