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FAST FACTS AND CONCEPTS #49

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Introduction

Gabapentin (Neurontin) is widely used for neuropathic pain. Controlled clinical trials in diabetic neuropathy and postherpetic neuralgia show that gabapentin at 2400-3600 mg/day has an efficacy similar to tricyclic antidepressants and carbamazepine. Consistent, though less compelling clinical evidence supports its use for cancer pain, pain associated with HIV infection, chronic back pain and others (readers wanting more in depth research findings are urged to consult Reference 1). The exact mechanism and site of action of gabapentin is unknown. Gabapentin is generally well-tolerated, easily titrated, has few drug interactions, and does not require laboratory monitoring. However, cost may be a limiting factor for some patients. Patients suitable for gabapentin should have a clear neuropathic pain syndrome, characterized by sharp, shooting, lancinating and/or burning pain, in a nerve root (radicular) or stocking/glove distribution.

Adult Dosing

Gabapentin is started at low doses (100 mg to 300 mg total daily) and increased by 100 – 300 mg every 1-3 days to effect. A typical schedule might be: day 1-2: 300 mg nightly; day 3-4: 300 mg twice daily; day 5-7: 600 mg twice daily; day 8 onwards: 600 mg three times a day. The usual effective total daily dose is 900-3600 mg, administered in three divided doses per day. Higher doses may be needed. Titration should proceed more slowly in elderly patients.

Dosing in Renal Failure

Gabapentin doses must be reduced for patients with renal insufficiency.

- Creatinine Clearance (CrCl) 30-60 ml/min: maximum daily dose is 1400 mg, divided.
- CrCl 16-30 ml/min: maximum daily dose is 700 mg, given once daily.
- CrCl 15ml/min: maximum daily dose is 300 mg, once daily. Doses should decrease proportionally for CrCl less than 15 ml/min (e.g. 300 mg every other day for a CrCl of ~7.5 ml/min).
- For patients on hemodialysis a supplemental dose is usually given after dialysis (usually 100-300 mg).

Adverse Reactions

Sedation, confusion, dizziness, and ataxia are the most common side effects, especially with rapid dose titration. Tolerance to these effects appears to develop within a few days if the dose is held at the highest tolerated dose until symptoms improve or stabilize.

Dosage Formulations

Gabapentin is available in 100 mg, 300 mg, and 400 mg capsules, 600 mg and 800 mg tablets, and as a liquid (250mg/5mL).

Cost

Gabapentin is more expensive than older agents used for neuropathic pain (tricyclic antidepressants and older anti-epileptic drugs such as carbamazepine). Generic gabapentin is available, although can cost ~\$100 for 90 600 mg tablets.

Summary

Gabapentin is a safe and effective adjuvant analgesic for neuropathic pain. Physicians should become comfortable using and titrating gabapentin in patients with neuropathic pain syndromes.

References

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