Anti-epileptic Drugs For Pain Management

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Abstract

Antiepileptic drugs (AED's) depress abnormal neuronal discharges and raise the threshold for neural impulse propagation. They have been found to have therapeutic efficacy in neuropathic pain states. Carbamazepine(CZ) and phenytoin (PT) were the drugs of choice for treating trigeminal neuralgia for 40 plus years. These two agents have been largely replaced due to the introduction of many newer, better-tolerated, and safer antiepileptic drugs.

CLINICAL USE/MECHANISM OF ACTION/SIDE EFFECTS:

There has been an explosion in the number of available AEDs. Many studies are ongoing to evaluate their efficacy in neuropathic pain states. Only CZ, PT, gabapentin (GB), and lamotrigine (LT) have been evaluated in double blind trials. ([4,5,6])

Some tenets of use are common in all of these medications. Initial dosing should be done at a low dose administered at bedtime, increased slowly up to a therapeutic level over 4 to 8 weeks. These medications do not have a ceiling dose, but are usually more effective at higher doses. Clinically the dose should be titrated upwards until side effects are encountered, then back down a small amount. The pain relief obtained is gradual with most agreeing that an adequate trial of an AED for pain should last 4-8 weeks at therapeutic doses prior to calling a medication ineffective.

A brief summary of clinical uses, mechanism of action, and side effects will be presented for the following AEDs.

CONCLUSION

AED’s depress abnormal neuronal discharges and raise the threshold for neural impulse propagation. They have been found to have therapeutic efficacy in neuropathic pain states. The older AED’s have been largely replaced due to the introduction of many newer, better-tolerated, and safer antiepileptic drugs. ([3]) The AED of choice for different painful states has not yet been determined, nor has an algorithm of use been developed for the newer agents.

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