

## Sodium Valproate: The Forgotten Anti-Neuropathic Medication

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### Description

Neuropathic pain is a disabling chronic condition. Current international guidelines for the management of neuropathic pain include the use of anti-depressants and anti-epileptic medications, including amitriptyline (tricyclic anti-depressants), duloxetine (serotonin noradrenaline reuptake inhibitor), gabapentin (anti-epileptic) and pregabalin (anti-epileptic) [1]. Opioids are mentioned but the guidelines state stronger doses are required as the nature of neuropathic pain is not as responsive to narcotic analgesics and the evidence is limited to peripheral neuropathic conditions. Tramadol and Tapentadol are also options that are considered in the management of neuropathic pain [2].

Sodium valproate is an anti-epileptic medication that has been available since the 1960's, but there have not been any randomised, placebo controlled trials to support its use in the management of neuropathic pain. [3].

Sodium valproate is the sodium salt of valproic acid. It is believed to act through a combination of mechanisms including membrane stabilization, enhanced GABAergic signalling, reduced N-methyl-D-aspartate-receptor mediated glutamate excitation and increased serotonergic inhibition [4].

Sodium valproate inhibits sustained neuronal firing in murine cortical and spinal neurons. This effect is mediated by prolonging repolarisation of voltage-activated sodium channels, blocking T-calcium channels and increasing neuronal potassium conductance at high concentrations [4].

There are some clinical concerns regarding the use of sodium valproate, in particular, teratogenicity (neural tube defects and hepatotoxicity). Hair loss and weight gain are other common adverse effects [4].

Sodium valproate has been found to provide significant pain relief in a number of neuropathic pain conditions, including post-herpetic [5], diabetic peripheral neuropathy [6] and trigeminal neuralgia [7].

A cochrane review however concluded that even though there is some evidence that sodium valproate may be effective in the treatment of chronic neuropathic pain, based on the quantity and limitations of the available evidence, the use should be reserved for cases where other proven treatment options have failed, are not available, or are not tolerated [8].

After over 20 years of clinical experience, we have found the use of low dose sodium valproate, with a maximum dose of 400 mg twice a day, should be considered in the management of a wide range of acute and chronic neuropathic conditions.

Further research with prospective randomised, placebo controlled trials over a prolonged duration may prove beneficial in exploring the role of sodium valproate in the management of chronic neuropathic pain.

### References

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