

## Neuropathic pain-definition, mechanisms diagnosis and management

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(臨床神経 2011;51:936)

Neuropathic pain represents a major medical problem and treatment has been unsatisfactory. Therefore, a new concept to classify neuropathic pain was proposed in which pain is analyzed on the basis of underlying mechanisms rather than on the basis of the causing etiology. The German Research Network on Neuropathic Pain established a large data-base of clinical as well as standardized quantitative sensory testing data. In all neuropathic etiologies several different somatosensory patterns could be analyzed. Thus, clear phenotypic subgroups exist in neuropathic pain which might be specifically tested in clinical trials.

The medical management of neuropathic pain consists of five main classes of oral medication (antidepressants, anticonvulsants with Na-blocking action, anticonvulsants with Ca-modulating actions, tramadol and opioids and topical medications (capsaicin and local anaesthetics). A early combination

of compounds effecting different mechanisms is often useful. Venlafaxine and duloxetine which block both serotonin and norepinephrine reuptake was effective in patients with painful diabetic polyneuropathy. Pregabalin and gabapentin show efficacy postherpetic neuralgia, diabetic painful neuropathy, central pain states and other neuropathic pain entities. The mechanism is an action on the  $\alpha_2$   $\beta$ -subunit of neuronal calcium channels. Local anaesthetics block voltage-dependent sodium channels. Carbamazepine is effective in trigeminal neuralgia. The strength of evidence is lower in other types of neuropathic pain. Oxcarbazepine and also lamotrigine and topiramate were not superior to placebo in large trials on painful diabetic neuropathy. For lamotrigine there is evidence of efficacy for HIV sensory neuropathy and central poststroke pain.