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[Article in German]

Weber C¹.**+ Author information****Abstract**

The treatment of patients suffering from chronic neuropathic pain remains a clinical challenge, particularly in cases where opioid therapy fails to provide sufficient pain relief. Spinal sensitization might be one cause for induction and maintenance of such states of pain, frequently accompanied by symptoms like allodynia, hyperalgesia and temporal summation of second pain. Experimental data concerning the role of NMDA-mediated processes in central sensitization and the effects of NMDA receptor antagonists in different models of neuropathic pain are reviewed. In clinical trials ketamine and other NMDA receptor blocking agents caused a significant reduction of hypersensitive states of pain, but nearly all authors described psychomimetic and other side effects. Aminoadamantanes like memantine and amantadine also have NMDA blocking properties and are widely used in the treatment of Parkinson's disease. Further clinical studies may reveal whether these substances will play a role as adjuncts in future pain treatment. Improving the efficacy of opioids by blocking NMDA receptor-mediated activity constitutes another clinically relevant concept for pain management. Numerous experiments have shown synergistic effects of NMDA antagonists and opioids in analgesia, while the development of opioid tolerance was prevented.

PMID: 9746842 [PubMed - indexed for MEDLINE]

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