



Opioids and immunosuppression. Clinical relevance?

[Article in German]

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First observations that opioids may have disadvantageous effects on the immune response have been made more than 100 years ago. Today the immunosuppressive effect of morphine is well established. Drug-induced immunomodulation is of growing importance in modern anesthetic concepts. The reduced stress response observed after morphine application contributes to this effect as well as direct impairment of immune effector cells such as bactericidal activity, intracellular killing, proliferative response or cytokine synthesis. Opioid-induced immunomodulation is mediated by opioid receptors found on immunocytes and in the central nervous system. A negative feedback mechanism via the hypothalamo-pituitary-adrenal axis may potentiate the direct inhibitory effect of morphine on the immune response. A final statement regarding the clinical relevance of opioid-induced immunosuppression cannot be made at this point, since the existing clinical data are preliminary and inconclusive. Therefore, further clinical studies are mandatory to elucidate the influence of opioid treatment on immune regulation in different clinical settings in anesthesia, critical care, pain therapy and emergency medicine. Further investigations may help to not only provide sufficient analgesia by application of opioids, but also to assess advantages and disadvantages on immune function.

Anaesthesist 2003 May; 52(5): 442-52

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