

**009 EFFECTS OF OPIOIDS ON CELLULAR IMMUNITY:
IMPLICATIONS FOR PALLIATIVE CARE**

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Background Opioids are commonly used in the management of pain, diarrhoea, cough and dyspnoea. However, their ability to modulate the ubiquitous endogenous opioid system can lead to many side effects. A potentially covert side effect which has been attracting increasing interest relates to opioid-induced immune suppression. This may be of particular importance in patients with cancer or infection. The immunomodulatory effects of opioids require an increased awareness within palliative care given that patients are potentially living longer with a palliative diagnosis.

Aims To systematically evaluate the in vitro effects on opioids on human immune system.

Methods Peripheral blood was obtained from healthy volunteers and the influence of clinically relevant concentrations of morphine, tramadol, fentanyl, buprenorphine, methadone, oxycodone, codeine and diamorphine on innate and adaptive

immunity were evaluated. These tests included investigation of neutrophil and monocyte bacterial defence mechanisms, the capacity of natural killer (NK) cells to kill tumour cells and T cell responsiveness to stimulation.

Results None of the opioids had a consistent effect on any of the immune parameters tested when analysed on a group basis. However, there was marked variability between individuals, both in their baseline and the effect of opioids. This was particularly evident with respect to the influence of morphine, tramadol, fentanyl and buprenorphine on neutrophil and monocyte bacterial defence mechanisms.

Conclusion These in vitro findings suggest that although morphine, tramadol, fentanyl and buprenorphine have little direct effect on anticancer or antiviral protection they could influence the susceptibility to bacterial infection. Clinical studies aimed at assessing the in vivo effects of opioid administration on innate and adaptive immune capacity in relevant patient groups are required in order to assess the potential clinical significance of opioids used for palliation.