

The effects of immediate-release morphine on cognitive functioning in patients receiving chronic opioid therapy in palliative care.

Kamboja SK, Tookmanb A, Jonesb L, Currana HV. *Pain* 2005; 117:388-395.

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Abstract:

Morphine and other potent opioids are frequently used in palliative care and pain management. When sustained-release (SR) opioids do not provide adequate background analgesia, additional immediate-release (IR) opioid (e.g. short-acting morphine) may be required to alleviate breakthrough or episodic pain. Despite the frequent use of IR morphine on top of SR opioids, little is known about the effects of such treatment on patients' everyday cognitive functioning. This study therefore used a double-blind, placebo-controlled, cross-over design to assess cognitive functioning in 14 patients receiving palliative care. All patients were taking SR opioid preparations and required 2 doses of IR morphine/day. Performance on cognitive measures (as well as subjective measures of pain and mood) after a dose of IR morphine was compared with placebo. Patients experienced significantly more pain-reduction following IR morphine (PZ0.03), while other measures of subjective drug effects (e.g. sedation) were largely unaffected. Patients displayed anterograde memory impairment after IR morphine relative to placebo (PZ0.003). Intriguingly, patients also had significant 'retrograde' memory impairment: delayed recall of verbal information presented before IR morphine also declined (PZ0.024). In addition, IR morphine reduced performance on a complex tracking task (Reitan's trails B; PZ0.03) whilst enhancing it on a simpler tracking task (Reitan's trails A; PZ0.03). In conclusion, this study suggests that IR morphine, when taken on top of a SR opioid, produces transient anterograde and retrograde memory impairments and a decrement in twotarget tracking. These impairments may impact negatively on patients' everyday functioning.

Comments:

Strengths/uniqueness:

- Well-designed study (randomized, double-blinded, cross-over design, outcomes measured with many assessment tools)
- Approved by the ethical committee

Weakness:

- Small study population
- The study population may not represent the patients in our practice which have multiple comorbidities and are in different stages of diseases
- The study didn't demonstrate relationship between opioid dose and cognitive performance.

Relevance to Palliative Care:

Immediate-release morphine is a commonly-used opioid in palliative care. This study showed us that IR morphine on top of SR morphine, not relating to its sedative effect, produced discrete, rather than global impairment in cognitive functioning. The domains of impairment include anterograde and retrograde memory which can affect patient's quality of life.