Palliative Care Guideline: Ketamine

Ketamine is a dissociative anaesthetic which is used for pain management in the acute setting and also in specialist palliative care. It has a number of actions including potent blockade of the NMDA receptor which makes it particularly good for neuropathic pain. It is also used in palliative care to treat opioid induced hyperalgesia (OIH). It is useful for patients who have failed to gain adequate pain relief form conventional drug and non-drug treatments.

For pain, ketamine is used intravenously, subcutaneously or orally. However, due to the risk of urinary tract toxicity the aim is for short term treatment only. In the hospice, this is usually by using a 'burst' of ketamine; the drug is given subcutaneously via a syringe driver with the dose increasing by increments over 3-5 days to a maximum of around 500mg/24h depending on response. It is then rapidly tailed off and discontinued. This mode of treatment can have an effect for weeks to months.

The urinary tract toxicity includes a chemical cystitis which may lead to bladder fibrosis and renal impairment. Although more common in long term recreational users, these problems have been seen after as little as 1 – 2 weeks therapeutic use. Changes may be irreversible.[1] Ketamine may also cause hepatobiliary problems, with abnormal LFTs. These usually resolve on discontinuing ketamine.[2]

Very occasionally patients will respond well to the subcutaneous ketamine, but on discontinuing they will continue to get pain which responds poorly to analgesics other than ketamine. These patients may be continued on a dose of oral ketamine, usual dose 10-50mg qds. They will continue to be monitored by the initiator who will be responsible for prescribing the ketamine. Patients should be warned to report any symptoms of dysuria, haematuria, frequency or new abdominal pain as these may be due to ketamine induced urinary tract toxicity. The aim would be to gradually reduce and discontinue the oral ketamine; the use of methadone as an alternative or suitability for interventional anaesthetic procedures should be considered.

1. Winstock AR *et a.l* (2012) The prevalence and natural history of urinary symptoms among recreational ketamine users. *BJU International.* **110:** 1762-1766
2. Dundee JW *et al.* (1980) Changes in liver enzyme levels following ketamine infusions. *Anaesthesia* **35**: 12-16

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