Marie Curie Cancer Care Research Programme - Project Grant

Project details

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KPS (Ketamine in Pain Study): A randomised double-blind controlled trial of ketamine versus placebo in conjunction with best pain management in neuropathic pain in cancer patients

Duration of project: 24 months
Start date: 01/01/2012
Budget: £98k

Abstract

Background
Clearly a particular challenge in end-of life care is time and time wasted at this point of care can have significant consequences for patient, carers and health professionals. Timely and effective relief of neuropathic pain is a significant clinical problem. Neuropathic pain(often with central wind-up) is present in at least 50% of patients who have pain which is difficult to control, however treatment is empirical, with no evidence to guide drug choice in individual patients. About two-thirds of patients fail to achieve satisfactory analgesia with the first choice of the commonly prescribed adjuvant analgesics, and repeated therapeutic trials of drugs are often required before satisfactory relief is achieved. In addition, drug titration can take weeks, sometimes longer for older adjuvant drugs. These factors mean that important time is lost for the patient with continuing poor pain control until the patient dies. Failure to achieve satisfactory pain relief is particularly likely where neuroplasticity leads to central “wind-up”.

The NMDA (N-methyl-d-aspartate) receptors within the spinal cord have been shown to have a significant role in the neurobiology of neuropathic pain, particularly in reversal of central wind-up. Subsequent human studies have indicated a potential role for ketamine (an NMDA receptor antagonist) in neuropathic pain and we have also demonstrated its efficacy in pain secondary to critical limb ischaemia. The clinical evidence base for ketamine needs to be expanded.

This study builds on our group’s pilot randomized controlled trial of ketamine in cancer pain, which found analgesic benefits with minimal side effects.

Aims
To establish if ketamine is superior to placebo for cancer-related neuropathic pain.

In addition, the side-effect profile, the effective dose range and the characteristics of the pain in responders and in non-responders will be assessed.

Methods
A randomized double-blind controlled trial of ketamine versus placebo in conjunction with best pain management in neuropathic pain in cancer patients. All patients will have comprehensive assessments of their pain and its impact throughout the study.

How results will be used
The output should inform directly the variable clinical practice which currently exists with ketamine, whether a positive or negative study. There will be at a minimum, detailed information about the pain characteristics of responders, versus nonresponders, the doses usually required and expected side-effect profile at such doses. This should contribute to more informed and efficient neuropathic pain control in the palliative care setting, including end-of-life care.