TITLE: Intravenous Ketamine for the Treatment of Pain Syndromes: Clinical Effectiveness

DATE: 07 June 2013

RESEARCH QUESTIONS

1. What is the clinical effectiveness of intravenous (IV) ketamine for the treatment of recalcitrant chronic regional pain syndrome?

2. What is the clinical effectiveness of IV ketamine for the treatment of fibromyalgia?

3. What is the clinical effectiveness of IV ketamine for the treatment of reflex sympathetic dystrophy?

KEY MESSAGE

One systematic review, two randomized controlled trials, and four non-randomized studies were identified regarding the clinical effectiveness of intravenous (IV) ketamine for the treatment of chronic regional pain syndrome. No health technology assessments, systematic reviews, randomized controlled trials, or non-randomized studies were identified regarding the clinical effectiveness of IV ketamine for the treatment of fibromyalgia or reflex sympathetic dystrophy.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2013, Issue 4), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2008 and May 24, 2013. Internet links were provided, where available.
The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

One systematic review, two randomized controlled trials, and four non-randomized studies were identified regarding the clinical effectiveness of intravenous (IV) ketamine for the treatment of chronic regional pain syndrome. No health technology assessments, systematic reviews, randomized controlled trials, or non-randomized studies were identified regarding the clinical effectiveness of IV ketamine for the treatment of fibromyalgia or reflex sympathetic dystrophy. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

In most of the identified studies,1-5,7 IV ketamine was effective at managing the pain experienced by patients with chronic regional pain syndrome (CRPS). Patients reported pain relief beyond the ketamine infusion period,3-5,7 obtaining the greatest pain relief after one week,3 with lasting pain relief reported up to six months.7 Significant improvements in patient movement disorders were noted in one study,7 but not in another.3 However, Type 1 CRPS patients who had previously reported pain relief, completely lost this relief by week 12.3 In addition, there were no gains in functional improvement.3

In contrast to the seemingly effective action of IV ketamine to provide pain relief, a study by Kiefer et al. reported that patients with refractory long-standing CRPS did not experience any pain relief when administered subanesthetic isomeric S(+)ketamine.6
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses

   PubMed: PM22136149

Randomized Controlled Trials

   PubMed: PM19783371

   PubMed: PM19604642.

Non-Randomized Studies

   PubMed: PM21939497

   PubMed: PM19540140

   PubMed: PM18254766

   PubMed: PM18266808

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APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies – Pharmacodynamic Focus


Review Articles


Additional References