

Journal Watch

The Safety and Efficacy of a Single Dose (500mg or 1 g) of Intravenous Magnesium Sulfate in Neuropathic Pain Poorly Responsive to Strong Opioid Analgesics in Patients With Cancer

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Own reading.

Abstract:

Neuropathic pain may respond poorly to morphine and is often difficult to relieve. Recent attention has been drawn to the role of the N-methyl-D-aspartate (NMDA) receptor in the potentiation of neuropathic pain. Magnesium is known to block the NMDA receptor. It reduces the neuropathic pain response in animals, and attenuates postoperative pain and migraines in humans. We have examined the safety, tolerability, and efficacy of two intravenous doses of magnesium sulfate in 12 patients with neuropathic pain due to malignant infiltration of the brachial or lumbosacral plexus. The first six patients received 500 mg, the remainder of 1 g. Apart from a mild feeling of warmth at the time of the injection, both doses were well tolerated. After receiving 500 mg, three patients experienced complete pain relief and two experienced partial pain relief for up to 4 hours duration; pain was unchanged in one patient. After receiving 1 g, one patient experienced complete relief and four experienced partial pain relief of similar duration; pain was unchanged in one patient. Intravenous magnesium sulfate in these doses appears to be safe and well tolerated. A useful analgesic effect may be obtained in some patients and further evaluation is warranted.

Comments:

Strengths:

1. This procedure was not explored previously in cancer patient population.
2. The intervention showed good results given the small sample size.

Weaknesses:

1. No information regarding the safety of magnesium usage is available.

2. The study is not blinded, so bias is a possibility.
3. Impractical to do outside the hospital setting due to the use intravenous route for administration of Mg⁺².
4. We do not have any information regarding the type of opioid used by different patients +/- any adjuvant, and if that had affected the results.
5. The relationship between the degree and duration of benefit and magnesium status was not examined.

Relevance to palliative care:

Neuropathic pain is one of the most difficult pain to treat . The addition of another way to control this problem may mean better quality of life and less suffering for cancer patients.