

**Comparative Study Of Analgesic Effect Of
Magnesium Sulphate Versus Paracetamol
On Post Tonsillectomy Pain In Children**

Thesis

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Summary

The tonsillectomy operation is associated with complications such as nausea, vomiting, hemorrhage and postoperative pain and the latest is the most common. If the postoperative pain is not well-controlled, especially in children, it can lead to a longer recovery period, delayed discharge, nutritional deficiencies, and resulting in dehydration of patients. These factors will increase the hospitalization period and the need for intravenous fluids.

On the other hand, children are the patients who mostly undergo tonsillectomy. Postoperative pain has more undesirable effects on preschool patients than adults. In developing countries the incidence of pain is higher and in spite of availability of cost-effective methods for pain care, acute and chronic pain is still undertreated.

For this purpose, a large number of studies have been designed to evaluate the analgesic effects of various drugs before and after the surgical procedure.

Magnesium inhibits calcium entry into the cell via a noncompetitive blockade of the N-methyl-d-aspartate (NMDA) receptor. Magnesium and the NMDA receptor are thought to be involved in the modulation of pain. Magnesium is also a physiological calcium antagonist at different voltage-gated channels, which may be important in the mechanisms of antinociception.

Paracetamol is, on average, a weaker analgesic than NSAIDs or COX-2 selective inhibitors but is often preferred because of its better tolerance.

Summary

Despite the similarities to NSAIDs, the mode of action of paracetamol has been uncertain, but it is now generally accepted that it inhibits COX-1 and COX-2.

It is important to develop effective multimodal analgesic strategies in order to improve pain control in pediatric patients undergoing surgical procedures. We continue to use opioids as the mainstay treatment, particularly in patients undergoing tonsillectomy, because few other modalities have been proven to be effective.

In this study we compare between the efficacy of the analgesic effect of magnesium sulphate on post tonsillectomy pain and paracetamol in children in addition to their effect on nausea, vomiting and bleeding.

Regarding the demographic data (age, sex, and weight) there was no statistically significant difference between the two groups. Also the hemodynamic variables during and after surgery, incidence of bleeding, nausea, vomiting, and degree of sedation showed no statistically significant difference between the two groups.

Regarding the pain scoring performed in PACU using the FLACC score (face, legs, activity, cry, and consolability score) results showed statistical significance between the two groups at admission in the PACU.

There was statistically significant difference between the two groups regarding the need for analgesics while in PACU.

In the present study we found that magnesium sulphate have more analgesic effect than paracetamol on post operative pain following tonsillectomy or adenotonsillectomy and reduce the need for post operative rescue analgesia.

Summary

We recommend further studies with a large number of patients, different dose regimens especially magnesium sulphate and with more postoperative follow up.