



STUDY ON ROLE OF MAGNESIUM SULPHATE IN ATTENUATING SUCCINYLCHOLINE INDUCED FASCICULATION AND POSTOPERATIVE MYALGIA

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ABSTRACT The study was done to study the role of magnesium sulphate in attenuating succinylcholine induced fasciculation and postoperative myalgia. The study has compared the effect of Magnesium sulphate with propofol and propofol alone on succinylcholine induced fasciculation and myalgia

KEYWORDS : Magnesium sulphate, succinyl choline, fasciculation and postoperative myalgia

Introduction

Succinyl choline is still one of the most commonly used muscle relaxant in clinical practice. Fasciculation is an inevitable feature of succinyl choline. These fasciculations are responsible for hyperkalemia, increased intraocular pressure, increased intracranial pressure, increased intragastric pressure and myalgia. So by blunting this fasciculation we can avoid all the above mentioned complications of succinylcholine. In this study, we used magnesium sulphate at a dose of 40mg/kg to blunt this succinyl choline induced muscle fasciculation. We used propofol as induction agent because it is better in reducing fasciculation

Aim of the study

The aim of the study is to study the role of magnesium sulphate in attenuating succinylcholine induced muscle fasciculation and succinyl choline induced postop analgesia.

Materials and Methods

The study was conducted in 60 ASA grade I or II patients undergoing elective surgeries under general anaesthesia

Inclusion criteria

- 18-60 years age
- ASA I & II
- Elective Surgery
- Informed consent

Exclusion criteria

- Not satisfying inclusion criteria
- Systemic disease
- Patient taking analgesics

Patients were randomly allocated into 2 groups namely MG group and NS group

MG group

Patients received Magnesium sulphate 40mg/kg diluted to 10ml with distilled water

NS group

Patients received 0.9% isotonic saline of volume 10ml

Technique

In the operating room, appropriate equipment for airway management and emergency drugs were kept ready. NIBP, Pulsoximeter and ECG leads were connected to the patient. Baseline values recorded. Cannulated with 18G intravenous cannula. Drugs given according to the group

Primary Outcome measures

Fasciculations present or not

1. Nil (absent)
2. Mild (fine fasciculations of eyes, face, neck or fingers without movement of limbs)
3. Moderate (obvious muscle twitching at more than one sites or movement of limbs)
4. Severe (vigorous, sustained and widespread fasciculations)

Secondary outcome measures

Postoperative myalgia after 24 hours

Grading

1. Nil (absence of pain)
2. Mild (muscle stiffness or pain on specific questioning in nape of neck, shoulders and lower chest on deep breathing)
3. Moderate (muscle stiffness and pain complained of by the patient spontaneously requesting analgesia)
4. Severe (incapacitating generalized muscle stiffness or pain)

Results

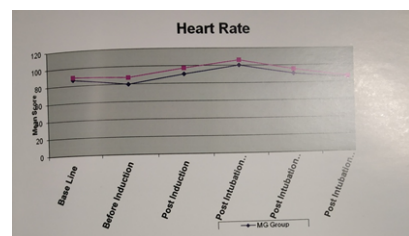


Fig 9.1 Graphical representation of Heart rate

Heart rate is measured at baseline, before induction, post induction, post intubation at 1st, 3rd and 5th minute. Calculated p values are 0.33, 0.002, 0.01, 0.02, 0.02, 0.26. Heart rate is statistically significant among the two groups before induction, post induction, post intubation at 1st and 3rd minute

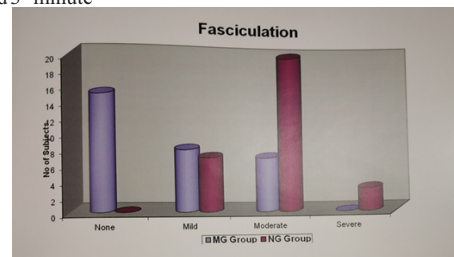


Fig 9.3 Graphical representation of fasciculation

15 patients had none, 8 had mild, 7 had moderate degree of fasciculation in MG group. 7 patients had mild, 20 had moderate and 3 had severe degree of fasciculation in NS group. P value is 0.0001 which is statistically significant.

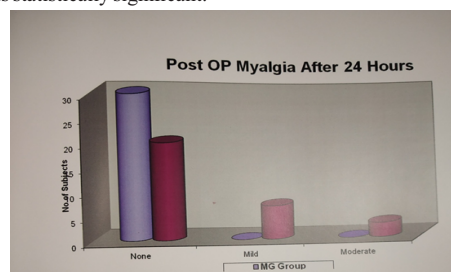


Fig 9.4 Graphical representation of postoperative myalgia after 24 hours

No patients had myalgia in MG group. 7 patients had mild and 3 patients had moderate degree of post op myalgia in NS group. P value of 0.002 which is statistically significant.

Conclusion

From our study we conclude that magnesium sulphate at a dose of 40mg/kg effectively reduces the succinyl choline induced muscle fasciculation and succinyl choline induced postoperative myalgia

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