

COMPARISON OF MAGNESIUM SULPHATE VS LIGNOCAINE TO ATTENUATE PRESSOR RESPONSE TO LARYNGOSCOPY AND ENDOTRACHEAL INTUBATION IN ELECTIVE SURGICAL PATIENTS.

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INTRODUCTION

Laryngoscopy and endotracheal intubation are an integral part of general anesthesia. Airway manipulations such as laryngoscopy and oropharyngeal intubation during general anesthesia are considered noxious stimuli that result in undesirable responses such as tachycardia, hypertension, arrhythmia, pulmonary hypertension and increased airway reactivity. Magnesium sulphate (MgSO4) owing to its ability of calcium antagonism can inhibit catecholamine release and effectively attenuate the pressor response to intubation. Lignocaine is an aminoamide local anesthetic, used to decrease local airway reflexes, bronchial hyperactivity and suppress hemodynamic response of intubation because of its analgesic and anti-inflammatory actions by decreasing the excitation of airway sensory C fibers plus release of sensory neuropeptides.

AIM OF THE WORK

To evaluate and compare the effectiveness of magnesium sulphate and lignocaine for attenuation of pressor response to laryngoscopy and endotracheal intubation in elective surgical patients.

SUBJECTS AND METHODS

This study was carried out on 80 patients scheduled for elective surgical procedures to be done under general anesthesia. The patients were randomized in a double blinded study using closed envelope method into 2 equal groups, group L and group M. Group L received 1.5mg/kg of 2% lidocaine intravenously 2 minutes prior to laryngoscopy and intubation whereas those in group M received 30mg/kg of magnesium sulphate in 100ml of normal saline 10 minutes prior to intubation.

RESULTS

Table 1: Comparison of group L and group M regarding heart rate (beats/min)

heart rate	1 minute after injection	immediately after intubation	2 min. post-intubation	5 min. post-intubation	7 min. post-intubation
Group L					
Range	70-90	90-105	87-105	78-100	75-95
Mean±SD	80.75±6.22	98.58±4.65	95.10±5.40	87.55±7.15	85.20±6.52
Group M					
Range	70-90	85-105	80-100	75-90	75-90
Mean±SD	80.68±5.26	95.83±5.89	90.33±5.99	83.25±5.00	83.03±4.74
p-value	0.477 N.S.	0.012*	0.001*	0.071 N.S.	0.074 N.S.

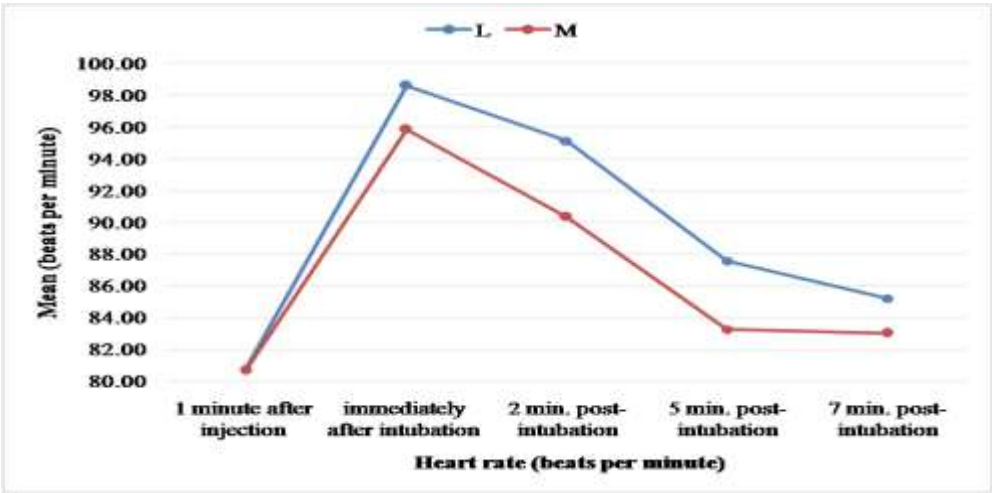
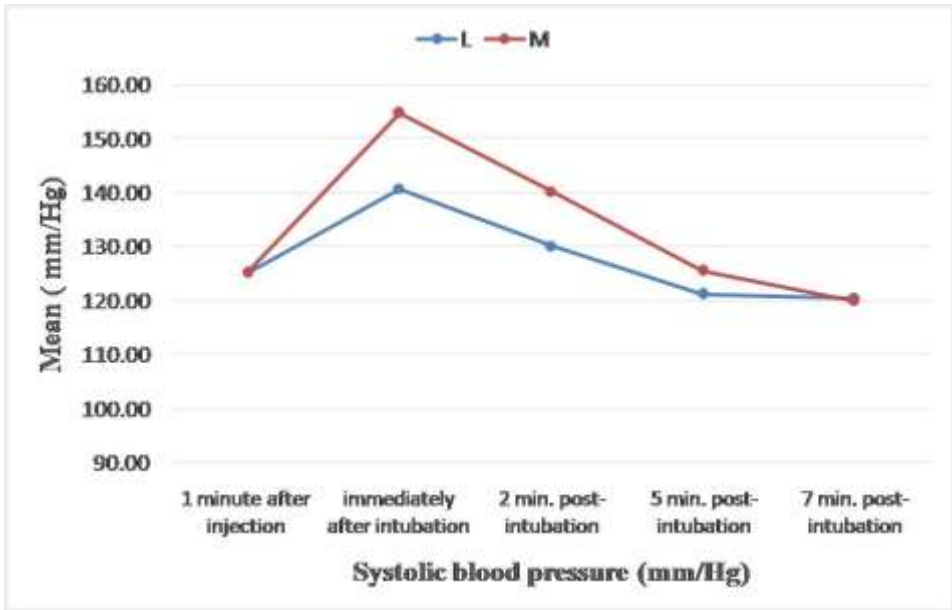


Table 2: Comparison of group L and M regarding systolic blood pressure (mmHg)

Systolic blood pressure	1 minute after injection	immediately after intubation	2 min. post-intubation	5 min. post-intubation	7 min. post-intubation
Group L					
Range	119-135	145-165	130-149	116-135	110-130
Mean±SD	125.23±4.49	154.75±5.62	140.20±6.56	125.53±6.12	119.98±7.05
Group M					
Range	115-135	130-150	118-140	110-129	108-131
Mean±SD	125.15±5.53	140.73±6.09	130.15±7.03	121.2±4.92	120.5±6.14
p-value	0.474 N.S.	0.014*	0.0028*	0.086	0.33



CONCLUSION

The present study revealed that magnesium sulphate provide fairly good and sustained control over haemodynamic responses to the stress of laryngoscopy and intubation and is significantly better than lignocaine, so we conclude that magnesium sulphate is better alternative to lignocaine for attenuation of stress responses of laryngoscopy and intubation.