A PROSPECTIVE RANDOMIZED DOUBLE BLINDED PLACEBO CONTROLLED STUDY TO ASSESS THE EFFICACY OF SINGLE DOSE INTRANASAL DEXMEDETOMIDINE IN ATTENUATING THE HEMODYNAMIC RESPONSE TO ENDOTRACHEAL INTUBATION

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AIM

The aim of the study is to prove the efficacy of single dose intranasal dexmedetomidine in attenuating the intubation response.

METHODS OF DRUG DELIVERY

Various methods of intranasal delivery

- Snorting
- Syringe dropper
- Atomizer
- Squeeze bottle technique
- Pre filled syringes
- Inhaler stick

INCLUSION CRITERIA

- Age 18 to 60 years
- All elective surgeries under general anaesthesia requiring endotracheal intubation

EXCLUSION CRITERIA

- Age below 18 and above 60
- ASA II and above
- Anticipated difficult airway
- Cormack-lehane grade 3 and above
- Pregnancy
- Obesity

MATERIALS AND METHODS

The sample size was determined as 30 per group by power analysis with alpha error of 0.01 and beta error of 0.8. 60 subjects were enrolled in our study.

The patients were informed about the study and written informed consent was obtained from them. All the patients were explained about the administration of medicine through the nasal route during the preoperative assessment.

Randomization was done by picking of lots from sealed bag. The study drug was prepared in 1 ml syringe (dexmedetomidne of 100mcg/ml). The calculated drug was prepared and administered by an anaesthesiologist who is not involved in collection of data and induction of anaesthesia. The dropper technique was used to administer the intranasal medication in all patients

GROUP A: Dexmedetomidine 1mcg/kg diluted to 1ml with normal saline and given as 0.5ml in each nostril

GROUP B: Saline 1ml, 0.5ml in each nostril

The patients were connected to standard monitors like ECG, pulse oximetry and NIBP in the preoperative holding area and baseline HR, SPO2, BP were noted down.

An IV cannula was secured and RL at 2ml/kg/hr was started. The emergency drugs like atropine and ephedrine were loaded ready.

The patients received the intranasal medication as per the allocated group 30 minutes prior to induction and supplemented with oxygen at 6L/min via mask. HR, SBP, DBP, MAP and was recorded and documented every 5 minutes for 30 minutes from the intranasal drug delivery in all the groups.

After shifting the patient to operating room, routine monitors were connected like ECG, pulse oximetry, NIBP and the baseline parameters were documented. After preoxygenation of 3 minutes with 100% oxygen, anaesthesia was induced with Inj. Fentanyl 2mcg/kg, Inj midazolam 1mg and Inj. Thiopentone 5mg/kg, Inj. Succinylcholine 2mg/kg was given to facilitate endotracheal intubation

Laryngoscopy and endotracheal intubation was done at 60 seconds from the time of suxamethonium administration for all patients. Anaesthesia was maintained with oxygen 33%, nitrous oxide and sevoflurane at 1 MAC

The heart rate, SBP, DBP and MAP were noted at pre induction, prior to intubation, and at 0, 3, 5, 10 minutes after tracheal intubation. The adverse effects like bradycardia, hypotension and arrhythmias requiring intervention were noted.

OBSERVATION AND RESULTS

The observation were analyzed using SPSS software. The results were expressed as mean, standard deviation and percentage. P value <0.05 was considered significant

CONCLUSION

In our study usage of dexmedetomidine given intranasally at a dosage of 1mcg/kg, 30 minute prior to the procedure attenuates the hemodynamic response to intubation.