ABSTRACT

INTRODUCTION

The induction of anaesthesia, laryngoscopy, endotracheal intubation and surgical stimulation often evoke cardiovascular responses characterized by alterations in systemic blood pressure, heart rate and cardiac rhythm. Complications like left ventricular failure, myocardial ischemia and cerebral haemorrhage have been attributed to sudden rise in systemic arterial blood pressure and increase in heart rate. These complications are more likely to occur in patients with pre existing hypertension, coronary heart disease, cerebral vascular disease, intracranial pathology and hyperactive airways.

AIM

This study was done to compare the efficacy of IV Dexmedetomidine and IV Esmolol in attenuating the cardiovascular stress responses accompanying laryngoscopy and endotracheal intubation in well controlled hypertensive patients.

METHODS

A Single centre, Prospective, Randomized, Double blind study. Total of 60 controlled hypertensive patients undergoing general anaesthesia for elective non cardiac surgery were randomly divided into two groups. Group D and Group E received Dexmedetomidine 1µg/kg and esmolol 1.5 mg/kg
respectively. Heart Rate (HR), systolic (SAP), diastolic (DAP) and mean (MAP) arterial pressures were recorded before drug administration (baseline; T1), after drug administration (T2), after induction of anesthesia (T3), immediately after intubation (T4) and 1, 3, 5, 10 and 15 minutes after intubation (T5, T6, T7, T8 and T9 respectively).

RESULTS

There is no significant difference between two groups in demographic profile, anti hypertensive medication and baseline parameters. There is statistical significant lower HR, SAP, DAP and MAP in group D compared to group E at T4 to T7. Intragroup analysis showed there is no statistical significant change of HR, SAP, DAP and MAP compared to baseline in Group D and returns to baseline at 10 minutes. Intragroup analysis showed there is statistical significant (Higher) change of HR, SAP, DAP and MAP compared to baseline in Group E at T5 to T8 and returns to baseline at 15 minutes.

CONCLUSION

In controlled hypertensive patients, administration of dexmedetomidine infusion before induction of anaesthesia blunts the haemodynamic response to laryngoscopy and endotracheal intubation.

KEYWORDS: Hypertension, Laryngoscopy, Tracheal intubation, Dexmedetomidine, Esmolol, anaesthesia.