INTRODUCTION

A popular method of providing anaesthesia for insertion of supraglottic airway devices is with the use of intravenous (i.v.) propofol which has the advantage of inducing anaesthesia rapidly and depressing upper airway reflexes. However, bolus i.v. propofol has been associated with adverse effects like hypotension, apnoea, and pain on injection. Sevoflurane is a halogenated volatile anaesthetic which satisfies the conditions required for SGA devices insertion without the side effects as seen with propofol.

METHODS

It was a Randomised clinical trial done after due permission of Institutional Ethics committee in Surgery Operation Theatre(OT), Dept of O&G OT, Urology OT of VIMSAR, BURLA, Sambalpur, Odisha. The study population included Patient undergoing short surgical procedures (45-60mins) in different OTs. The demographic characteristics of sample were found. The study tools used were laryngeal mask airway (LMA) size 3 and 4.

On this background our study was undertaken with a primary aim to compare conditions for SGA devices insertion following anaesthesia with inhalation of sevoflurane or intravenous injection with propofol.

RESULTS

Successful LMA insertion in first attempt was 100% in group P with excellent conditions while in group S it was 89.067% (57 patients) with excellent to satisfactory conditions. Mean arterial pressure was observed statistically significant between the groups (p=0.03). Successful SGA insertion and hemodynamic parameters at baseline, at induction and every min for 5 minutes after induction were recorded in both the groups. Data was analysed using student's t-pair test and statistical significance set at P<0.05.

CONCLUSION

Sevoflurane requires greater time for LMA insertion but with better haemodynamic stability. So, it can be used as an alternative.

ABSTRACT

Successful LMA insertion in first attempt was 100% in group P with excellent conditions while in group S it was 89.067% (57 patients) with excellent to satisfactory conditions. Mean arterial pressure was observed statistically significant between the groups (p=0.03). Successful SGA insertion and hemodynamic parameters at baseline, at induction and every min for 5 minutes after induction were recorded in both the groups. Data was analysed using student's t-pair test and statistical significance set at P<0.05.

On this background our study was undertaken with a primary aim to compare conditions for supraglottic airway devices insertion following anaesthesia with inhalation of sevoflurane or i.v. induction of propofol. Secondary aim was to compare the hemodynamic parameters such as BP, pulse rate, etc. and side effects if any.

All the patients were kept fasting for at least 12 hours before induction of anaesthesia. Each patient was given premedication 15 minutes prior to induction of anaesthesia with injection glycopyrolate (0.004mg/kg body wt), injection midazolam (0.04mg/kg body wt) and injection nalbuphine (0.2mg/kg body wt). Monitoring consisted of ECG, BP, SpO2, and ETCO2. Intravenous line was secured and crystalloids were given. Patients were randomized into one of two groups (Group P: Propofol and Group S: Sevoflurane). Both groups received i.v. lignocaine (2ml of 1%) before induction.

Prior to the induction of anaesthesia, patients in both groups had a face mask placed over their face and breathing spontaneously. Group P received intravenous propofol (2mg/kg body weight) with 100% oxygen via the face mask. In group S, Magills circuit primed with Sevoflurane 8% in N2O 50% and O2 50 % (flow rate –8lit/min) for 30 seconds connected to the face mask. After Loss of eyelash reflex, SGA insertion was attempted. The time taken from induction of anaesthesia to loss of eyelash reflex, time taken from loss of eyelash reflex to successful SGA insertion and hemodynamic parameters at baseline, at induction and every min for 5 minutes after induction were recorded in both the groups. Data was analysed using student's t-pair test and statistical significance set at P<0.05.

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induction in both groups. SGA insertion was attempted by an experienced anaesthesiologist blinded to the insertion technique. The time of induction that is the time (in sec) taken from induction of anaesthesia as per BIS value at 60, and the time of SGA insertion i.e. time taken (in sec) from attending BIS value 60 to successful SGA insertion will record in both the groups. Grading of conditions in LMA insertion was followed. Haemodynamic parameters were recorded at baseline, at induction and every min for 5 minutes after induction. Occurrence of complications like coughing, gagging and laryngospasm during LMA insertion were not noticed in both the groups of this study which may be due to adequate depth of anaesthesia with depression of laryngeal reflexes by both agents.

The overall insertion was excellent with propofol with all 64 patients (100%) scoring 18. With sevoﬂurane, 57 patients (89.067%) had excellent conditions for LMA insertion and 7 patients (10.933%) had satisfactory conditions. The difference of excellent conditions between the two groups was almost equal to significant level (p=0.007) Lian et al in their study found that more attempts at insertion of LMA were required in patients in sevoﬂurane group than in propofol group because of inadequate mouth opening. These findings are comparable to our study also. Priya et al found no difference in number of attempts required to insert LMA.

LIMITATION
Sevoﬂurane expenditure/cost effectiveness is not calculated in the study as it is available free of cost under “Niramaya” programme of Govt. of Odisha. Patient recovery proﬁle is not assessed in the study. OT pollution level is not assessed for the drugs used.

CONCLUSION
Conditions for LMA insertion provided with intravenous propofol are better than sevoﬂurane but haemodynamic stability is better with sevoﬂurane than propofol. So, sevoﬂurane can be used as an alternative.

ACKNOWLEDGEMENT
We are thankful to Head of Department, and all the faculties and staffs Department of Anaesthesiology and Critical Care, VIMSAR, Burla for their support.

Conflicts Of Interest: - Nil

Funding: - No funding sources

Ethical Approval: - The study was approved by the Institutional Ethics Committee.

REFERENCES


