26192 - EFFECT OF NALBUPHINE AND MIDAZOLAM ON HAEMODYNAMIC RESPONSE TO INTUBATION

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INTRODUCTION:

Laryngoscopy and tracheal intubation produce stress response in the form of tachycardia, hypertension and increased levels of catecholamines.^{1,2} As the control of blood pressure and heart rate is of utmost importance to prevent the detrimental effects; there is a need for a safe and effective drug to attenuate the cardiovascular response to laryngoscopy and intubation. Nalbuphine and midazolam are inexpensive and most commonly used in our community as a premedicant. Our aim was to compare the effects of nalbuphine and midazolam on haemodynamic responses to endotracheal intubation to help the selection of a better drug in this respect.

METHOD:

After approval from the hospital committee a study was carried out on ninety adult male patients of ASA I or II status, undergoing general surgery under standard general anaesthesia. After informed consent, three groups of 30 patients each were made by random allocation. On arrival in the theatre, E.C.G monitor, pulse oximeter and Non-invasive blood pressure monitor were applied. After 3 minutes of preoxygenation, all groups were induced with thiopentone 4mg/kg and suxamethonium 1mg/kg. Group I was control in which 3ml of saline was given. Group II received nalbuphine 75ug/kg and Group III received midazolam 30ug/kg before the induction agents. Following intubation, anaesthesia was maintained with O₂+N₂O+halothane (0.8%). Heart rate, systolic blood pressure, diastolic blood pressure and mean arterial pressure were recorded before induction, at laryngoscopy and intubation and after intubation every minute for three minutes. Concluding parameters were analysed statistically by ANOVA. $p < 0.05$ was taken as significant.

RESULTS:

Demographic data showed similarity in age and weight between groups. Baseline values did not differ significantly between groups. A decrease in HR, SBP, DBP, MAP was seen in Group II and III but the decrease was more pronounced in Group II. ($p < 0.05$)

DISCUSSION:

The haemodynamic observations were noteworthy in our study. Significant attenuation of cardiovascular response to laryngoscopy and tracheal intubation was seen with nalbuphine and midazolam as compared to the control group. Analysis of haemodynamic response showed better suppression with nalbuphine than midazolam. The results of our study were consistent with previous study showing reduction in heart rate and systolic arterial pressure with nalbuphine as compared to other drugs.⁴

CONCLUSION:

Our study results suggest that nalbuphine when used as premedicant, in dose of 75ug/kg is more effective than midazolam in blunting the stress response to laryngoscopy and intubation. We recommend its use in our settings before induction of anaesthesia.

REFERENCES:

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Effect of Nalbuphine and Midazolam on the Haemodynamic Response to Intubation.

	before Induction Mean±sd	at Intubation mean±sd	after Intubation mean±sd		
			1 min	2 min	3 min
Group I					
HR	89±9.8	104±8.9	100±6.4	94±6.9	90±7.6
SBP	125±16	157±12.8	140±10	140±10	122±11
DBP	80±9.3	104±6.7	97±5.3	83±7.1	83±7.1
MAP	95±11.1	122±8.6	111±6.3	97±8.1	96±7.9
Group II					
HR	82±11.7	89±10	83±10.3	81±9.9	79±9.4
SBP	134±17.5	140±10	135±10.2	134±9.8	130±9.5
DBP	87±9.1	90±10.2	90±9.1	85±9.3	85±9.5
MAP	103±11.5	106±11.8	105±10.6	101±9.9	100±10
Group III					
HR	92±16	97±14.5	93±11.3	88±11	87±11
SBP	127±13	135±8.5	135±9.4	130±8	125±5.4
DBP	84±7.1	90±9.2	87±6.2	84±4.8	82±4.3
MAP	98±7.3	105±10.1	103±6.6	99±5.3	97±3.9