A comparative study midazolam versus propofol for sedation during regional anaesthesia at tertiary health care centre

Nunavath Surya¹, Dantoor Suresh^{2*}

¹Associate Professor, ²Assistant Professor, RVM Institute of Medical Sciences and Research Centre, Laxmakkapally, Mulugu, Siddipet, Telangana – 502279, INDIA. **Email:** spgveducation@gmail.com

<u>Abstract</u> Background: Conscious sedation is being widely used in various diagnostic, surgical and therapeutic procedures. Its use in spinal anesthesia is becoming increasingly popular. Aims and Objectives: To study Midazolam versus Propofol for Sedation During Regional Anaesthesia at tertiary health care centre. Methodology: This was a cross sectional study carried out in the department of anesthesiology at tertiary health care centre during the one year period i.e. January 2017 to January 2018 .Using conscious sedation using midazolam in group-I vs. propofol in group-II. In 80 patients of ASA Grade I,II,and III, were randomly divided in two groups, 40 in each group, The statistical analysis was done by Chi square test calculated by SPSS software version 19. Result: In our study we have seen that Age distribution in both the group was comparable with each other (X2=2.412,df=5,P>0.05), Sex distribution in our study was comparable with each other (X2=0.05,df=1,p>0.05), Recovery at the end of surgery. In Group II 67.5% of patient were calm and quiet while 35% Group I. In group II, 12.5% of patients were asleep, arousable and in Group I, 22.5% of patients were asleep, arousable. Recovery and in end of surgery is highly statistically significant, in group II .(X2=8.50,df=2, P < 0.01), There was significantly less number of recall of events in Group II Preoperative and intraoperative events, than Group I (X2=11.44,df=3,p<0.0096). Conclusion: It can be concluded from our study that Propofol was better than Midazolam as compared to Sedation during regional anesthesia so propofol should be preferred over midazolam. Key Word: midazolam.

*Address for Correspondence:

Dr. Dantoor Suresh, Assistant Professor, RVM Institute of Medical Sciences and Research Centre, RVM Institute of Medical Sciences and Research Centre, Laxmakkapally, Mulugu, Siddipet, Telangana -502279, INDIA.

Email: spgveducation@gmail.com

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INTRODUCTION

In the regional anesthesia the type of anesthesia is given as conscious sedation Conscious sedation is the use of medication to minimally depress the level of consciousness in a patient while allowing the patient to continually and independently maintain a patent airway

and respond appropriately to gentle physical stimulation or verbal communication, e.g. "open your eyes". Conscious sedation is being widely used in various diagnostic,^{1,2} surgical and therapeutic procedures. Its use in spinal anesthesia is becoming increasingly popular.³ The goals and objectives of conscious sedation are to provide a tranquil patient, free from anxiety with reduced attention, amnesia and retention of verbal communication and cooperation albeit sluggish.⁴ It provides calming effect and minimizes stress. Despite the established record⁵ of safety of conscious sedation, problems have occurred as one degree of sedation may progress to another depending upon the dose of the administered drug. These include hypoventilation, apnoea, airway obstruction and cardiopulmonary impairment. Appropriate agents provide safe and effective sedation and ensure greatest margin of safety. Conscious sedation may be produced by administration of various

How to site this article: Nunavath Surya, Dantoor Suresh. A comparative study midazolam versus propofol for sedation during regional anaesthesiaat tertiary health care centre. *MedPulse International Journal of Anesthesiology*. January 2019; 9(1): 10-12. http://medpulse.in/Anesthsiology/index.php pharmacological agents by several common routes.⁶⁻⁹ In our study we have seen the study of Midazolam versus Propofol for Sedation During Regional Anaesthesia at tertiary health care centre

METHODOLOGY

This was a cross sectional study carried out in the department of anesthesiology at tertiary health care centre during the one year period i.e. January 2017 to January 2018 .Using conscious sedation using midazolam in group-I vs. propofol in group-II. In 80 patients of ASA Grade I,II,and III, were randomly divided in two groups,

40 in each group, of between 15 to 60 years of either sex undergoing any surgery under regional anesthesia (spinal, epidural anesthesia or peripheral nerve blocks, Routine of emergency surgery were included into study while the patients with history of allergic reaction to the study medication, Chronic opioid or sedative drug use, Obesity(>130% for ideal body weight), Clinically significant cardiac, pulmonary, hepatic or renal dysfunction were excluded from study. The statistical analysis was done by Chi -square test calculated by SPSS software version 19.

RESULT

Table 1: Demographic data						
Characteristics	Group I	Group II	Remarks			
Age years						
15-25	9	4				
26-35	10	12				
36-45	12	13				
46-55	7	8				
56-65	2	3				
Total	40	40				
(X ² =2.412,df=5,P>	0.05)					

Age distribution in both the group was comparable with each other ($X^2=2.412$, df=5,P>0.05)

Sex	Group I	Group II	p-value
Male	21	22	NS
Female	19	18	
Total	40	40	

Sex distribution in our study was comparable with each other ($X^2=0.05$, df=1,p>0.05).

Table 2: Recovery at the end of surgery							
Group I (n=40)			Group II (n=40)				
o Pe	rcentage	No	Percentage				
ļ	35	27	67.5				
	22.5	5	12.5				
1	42.5	8	20				
)	100	31	100				
	covery a Group I D Pe	Boole Covery at the end of Group I (n=40) 0 Percentage 35 22.5 42.5 0 100	Group I (n=40) Group o Percentage No a 35 27 22.5 5 a 42.5 8 b 100 31				

 $(X^2=8.50, df=2, P < 0.01, statistically significant)$ From above table recovery at the end of surgery. In Group II 67.5% of patient were calm and quiet while 35% Group I. In group II, 12.5% of patients were asleep, arousable and in Group I, 22.5% of patients were asleep, arousable. Recovery and in end of surgery is highly statistically significant, in group II. ($X^2=8.50, df=2, P < 0.01$)

Table 3: Recall of events								
Characteristics	Group I (n=40)				Group II	(n=40)		
	Yes	%	No.	%	Yes	%	No.	%
Preoperative event	14	35%	26	67%	5	13%	35	88%
Intraoperative Event	7	18%	23	83%	2	1%	38	9 5%
(V2 11 11 df 2 m	0 000/	1						

(X²=11.44, df=3, p<0.0096)

From Above table there was significantly less number of recall of events in Group II Preoperative and intraoperative events, than Group I ($X^2=11.44$, df=3,p<0.0096)

DISCUSSION

In 1966 shane described "intravenous amnesia" technique involving small incremental doses of barbiturates, opioids, anticholinergics and ataractics. The term "conscious sedation" implies the use of intravenous anesthetics and analgesics to supplement local or regional anesthesia. According to American dental association conscious sedation is defined as use of medication to minimally depress level of consciousness in a patient while allowing the patients to continually and independently maintain patent airway and responds appropriately to verbal commands⁸. Ability to maintain patent airway independently is an important distinguishing feature of conscious sedation from deep sedation⁹. Advantages of conscious sedation:-Adequate sedation with minimal risk, Relief of anxiety, Amnesia, Relief of pain and other noxious stimuli. Benzodiazepines are widely used to produce sedation and amnesia in the operative room. Midazolam offers several advantages over other available benzodiazepines. It cases early recovery less postoperative sedation, less veno-irritation on injection and has excellent amnestic action. Midazolam is used for conscious sedation for short diagnostic or endoscopic and dental procedure, adjunt to local or regional anesthesia¹⁰. Propofol is a sedative hypnotic drug, which is becoming popular for sedation during patients procedures performed under local anesthesia. Its high clearance and favorable recovery profile offers advantages over other intravenous sedative and analgesic drugs. Sedation with propofol can be adjusted with manual intermittent bolus injections techniques^{11,12,13}. In our study we have seen that Age distribution in both the group was comparable with each other (X²=2.412, df=5,P>0.05) Sex distribution in our study was comparable with each other $(X^2=0.05, df=1, p>0.05)$ Recovery at the end of surgery. In Group II 67.5% of patient were calm and quiet while 35% Group I. In group II, 12.5% of patients were asleep, arousable and in Group I, 22.5% of patients were asleep, arousable. Recovery and in end of surgery is highly statistically significant, in group II.(X²=8.50,df=2, P<0.01) There was significantly less number of recall of events in Group II Preoperative and intraoperative events, than Group I (X²=11.44,df=3,p<0.0096) This was similar to Khurana P¹⁴ et al they found The time to reach required sedation was 11 min in Midazolam group(Group I) while it was 6 min in Propofol group(Group II) (p=0.0). Fall in MABP was greater with propofol. Recovery in with midazolam was slower than with propofol (18.6 +/-6.5 vs 10.10+/-3.65 min) (p=0.00). We concluded that

both midazolam and propofol are effective sedatives, but onset and offset was quicker with propofol

CONCLUSION

It can be concluded from our study that Propofol was better than Midazolam as compared to Sedation during regional anesthesia so propofol should be preferred over midazolam.

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