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THE DIFFERENT TIMING OF ORAL CLONIDINE PREMEDICATION EFFECT ON SEDATION SCORE IN SPINE SURGERY

[1]Dr. Satish Kumar, [2]Dr. Sanjay Kumar
[1]M.O. Specialist (Anaesthetist) M.G.M.S.C. Khaneri, Department of Health and Family Welfare Himachal Pradesh.
[2]M.O. Specialist (General Surgery) M.G.M.S.C. Khaneri, Department of Health and Family Welfare Himachal Pradesh.

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Corresponding author: Dr. Sanjay Kumar
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Abstract
Background: Premedication is the administration of medication before anaesthesia. It is used to prepare the patient for anaesthesia and to provideoptimal conditions for surgery.
Methods: The study of oral premedication dose of clonidine in spinal surgeryat different time was conducted on sixty ASA grade-1 patients of either sex between 20 to 60 years of age undergoing elective spine surgery. Thisstudy was performed after approval from ethics committee of the institute. Informed consent was obtained from each patient.
Results: Sedation score was recorded preoperatively in both the groups when the patient were shifted to the operation theater according to score given by American Society of Anaesthesia. In group-1, 25 patients (83.3%) had sedation score of 0 and 5 patients (16.7%) had score of 1. Similarly in group-2, 29 patients (96.7) had a sedation score 0 and only 1 patient (3.3%) had sedation score1.
Conclusion: In conclusion this study establishes that the premedication with tab.clonidine 200µg (As tab. clonidine is available in 100µg) 90 minute before the surgery or 3.5 hour before the surgery produced adequate sedation
Keywords: Clonidine, Sedation, Spine

Introduction

Premedication[1] is the administration of medication before anaesthesia. It is used to prepare the patient for anaesthesia and to provideoptimal conditions for surgery. The practice of premedication has changed substantially.Recent year use of strongly sedative drugs eg. morphine and hyoscine to aid smooth induction and reduced salivation has been abandoned with the advent of modern intravenous and inhalation anaesthetic agent, which hasfew side effect and fastest onset of action. Other factor that has reduced the use of sedative premedication includes[2] increasing use of day care surgery, Same day admission, patient often do not find bed until just before surgery and change to surgical list making the timing of drug delivery difficult.

Materials and Method

The study of oral premedication dose of clonidine in spinal surgeryat different time was conducted on sixty ASA grade-1 patients of either sex between 20 to 60 years of age undergoing elective spine surgery. Thisstudy was performed after approval from ethics committee of the institute. Informed consent was obtained from each patient.

Exclusion Criteria-

1. Age<20 and >60
2. Patient refusal
3. ASA-2. ASA-3 and ASA-4
4. Patient with B.P.>140/90and<110/70.H.R<60
5. Patient on any medication which altered H.R. and B.P.
6. Difficult intubation and emergency surgery
7. Any medication which interact with clonidine
8. Cervical spine surgery
9. Coronary artery and cerebrovascular disease
10. Neurological disorder and diabetes mellitus

Study protocol were explained to all the patients during pre-anesthetic evaluation and after taking written informed consent they were included in the study and were allotted the group according to the randomallocation software.

Method – Patients were randomized into two groups of 30 each with randomization software.

In group1.patient were received tab clonidine 200µg (2 tablet of Arkamin 100µg each) 90 minute beforesurgery.

In Group2 patients were received tablet clonidine 200µg 3.5 hour before surgery. (Tablet Arkamin of Urichem Laboratories Ltd.is avaibleas 100 µg was used.)

Patients of both the group were advised to take tablet midazolam 7.5mg before bed time and was nil per orally after 10pm.

Next day in the morning group-1 patient were given tab clonidine 200µg 90 minute before surgery and group-2 patient were given tab clonidine 200µg 3.5 hour before surgery. Vitals were recorded in both the groups before premedicating. On arrival in the operation theatre H.R. and B.P was noted down. Sedation score was done just before

and afterpremedication. The degree of sedation was recorded (as per American society of anaesthesiology sedation score)

1. Point- patient awake &talkative
2. Point- patient awake but uncommunicative
3. Point-patient drowsy, quiet and easily arousable
4. Point –patient asleep

A peripheral intravenous line was secured with 18G cannula. Monitor was attached and patient base line measurement of HR. SBP. DBP & MAP was obtained non-invasively and ECG was displayed on themonitor. Saturation was monitored throughout the procedure. Injecton fentanyl 2ug/kg i.v and. Injection emset (ondansetron) 4mg 1/v was givenand after pre-oxygenation with 100% oxygen for 3 minute, patient was induced with injection propofol 40 mg stat and 10 mg every 3 second, till eye lash reflex was gone. Induction dose of propofol was noted. After ventilating the patient, injection rocuronium 0.6mg/kg i.v. was given.

Intubation was done gently after 3minute with endotracheal tube 7.5 ID infemale and 8.0 ID in the male. Haemodynamics response to intubation was noted. Patient was maintained on oxygen, nitrous Oxide (33%-66%) & isoflurane (0-1%). injection diclofenac 75 mg i/v was given slowly.

Results:

Sedation score was recorded preoperatively in both the groups when the patient were shifted to the operation theater according to score given by American Society of Anaesthesia. In group-1, 25 patients (83.3%) had sedation score of 0 and 5 patients (16.7%) had score of 1. Similarly in group-2, 29 patients (96.7) had a sedation score 0 and only 1 patient (3.3%) had sedation score1.

The sedation score in both the group was comparable and the difference was statistically insignificant (P-value>0.05).

Table 1: Comparison of pre-operative sedation scores between group1 and group 2

Sedation score preoperative			Group		Total	Sig.
			1	2		
Sedation Score	0	Count	25	29	54	
Pre op	% within SedationScore Pre op		46.3%	53.7%	100.0%	0.085
	% within group		83.3%	96.7%	90.0%	
	1	Count	5	1	6	
	% within SedationScore Pre op		83.3%	16.7%	100.0%	
	% within group		16.7%	3.3%	10.0%	
Total		Count	30	30	60	
		% within Sedation	50.0%	50.0%	100.0%	
		Score Pre op				

Discussion:

In the present study we premedicated both the groups by Tablet clonidine 200µg to each patient [tablet available was 100µg]. In our study the average dose of clonidine was 3.6µg/kg.

In group-1, we gave tab. clonidine 90 minute before surgery and in group-2; we gave tab. clonidine 3.5 hour before surgery. In group-1 there was 0 sedation in 83.3% of patient's and 16.7% of patient were in sedation score 1.In group-2, there were 96.7% patient in 0 sedation score and 3.3% patient were in sedation score 1.Preop sedation score in boththe group was 0 and 1 and none of the patient had sedation score 2 or 3.Most of patient in both the groups were awake, talkative and few patient were awake and uncommunicative. Post-op sedation score in group-1was, 0 sedation score in 20% of patient, sedation score 1 in 60% and 20% of patient were in sedation score 2.In group-2,there was 23.3% patient were in 0 sedation score,56.7% patient were in sedation score 1 and 20% patient were in sedation score 2

Similarly the Post-Op sedation score, in both the group was 0,1and 2 i.e. some patient in both the group were asleep but easily arousable. From our study we found that tab clonidine has mild to moderate effecton both pre and post operatively sedation up to the dose of 4 microgram per kg.

The overall level of sedation is better by clonidine than midazolam. This was concluded by Sequeira Trevor, Madhusudan Upadya, et al[3] in their study to compare oral midazolam (0.5 mg/kg) 30 minute before induction versus oral clonidine (4 μg/kg) 90 minute before induction as a premedication in pediatric patients aged between 2-12 years with regardto sedation and anxiolysis. In their study the children were evaluated for levels of sedation and anxiety at the time of separation from the parents, venepuncture, and at the time of mask application for induction of anesthesia.

Conclusion:

In conclusion this study establishes that the premedication with tab.clonidine 200µg (As tab. clonidine is available in 100µg) 90 minute before The Surgery or 3.5 Hour before the Surgery Produced Adequate Sedation.

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