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Research Article

VERBAL ANTIHYPERTENSIVE PRELIMINARY TREATMENT: ITS OUTCOMES ON INITIATION DOSAGE OF THIOPENTONE SODIUM AND PERIOPERATIVE HEMODYNAMICS

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Abstract:

Background: We considered the impact of spoken antihypertensive preliminary treatment on the acceptance portion of hypodermic barbiturate and its impact on before surgical treatment haemo-dynamics. Appropriate premedication is significant all in all anesthesia cases to lessen uneasiness, to create sedation absence of pain, amnesia and to keep up hemo-dynamical security during peri usable period.

Methods: Portion of barbiturate needed and before surgical treatment comparison of somaesthesia, decompress circulatory strain and pulse in the two gatherings surveyed. All patients were separated into two gatherings. Sixty ASA score I and score II sufferers were isolated in to both faction, Group I(study gathering) pre cured with oral clonidine 4mcg/kg/body wt., Group II(control gathering) (no examination medication managed).

Statistical analysis: Huge level for dismissing invalid speculation was taken $p < 0.05$. The information was broke down utilizing two followed tests for contrasts between methods for both models (Z test) and in required circumstance utilizing x2 test.

Results: There was an exceptionally huge ascent of systolic blood pressure, diastolic circulatory strain and pulse in charge group (group II) contrasted with gathering I(study gathering). The acceptance operator thiopentone sodium portion necessity is altogether diminished in gathering I (study gathering) clonidine pre medicated patient contrasted with control group (Group II) (p esteem < 0.0001).

Conclusion: It is finished up from the aftereffects of this investigation that Pre drug with clonidine 4mcg/kg body weight an hour and a half before enlistment with thiopentone diminishes the necessity of thiopentone and furthermore weakens the pressor reaction during delicate and smooth direct laryngoscopy and intubation.

Keywords: Clonidine, thiopentone sodium, perioperative hemodynamic.

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INTRODUCTION:

Clonidine is likewise discovered reasonable as a pre-medicant given in a portion of 4-5 mcg/kg an hour and a half before medical procedure. Clonidine is an alpha 2 receptor agonist that demonstrates midway to decrease thoughtful outflow. Clonidine acts by animating alpha 2 receptors and after that by lessening the focal thoughtful out stream with subsequent decrease in catacholamines and in this manner, cause a fall in pulse. It produces sedation, anxiolysis and smooth enlistment of anesthesia [1]. It diminishes salivation, acceptance portion of intra venous sedatives and post usable shuddering. It has been utilized as a halfway acting enemy of hypertensive, yet in the field of anesthesiology clonidine is making a returned as premedicant utilized specifically gathering of patients. Pre analgesic drug starts with a night sedative. The persistent receives an oral narcotic, for example, alprazolam 0.5mg or diazepam 10 mg for sedation and anxiolysis [2]. It is likewise demonstrated to lessen the pressor reaction to intubation and ameliorate post employable hypertension and tachycardia. The pharmacy-dynamic profile of clonidine recommends that it might likewise reasonable for this reason particularly in light of the fact that it produces insignificant respiratory discouragement [3].

METHODS:

An educated composed assent was gotten from the patients and his/her relatives. The patients were between the ages gathering of 20-40 years. Sixty ASA Grade I and Grade II Patients posted for elective medical procedure were chosen for the investigation. His soporific technique to be embraced was disclosed to the patient and an endeavor was made to alliative their nervousness. Routine research center assessment was conducted. A time of an overnight fasting was exhorted. Patient receiving narcotic and sedative medicine influencing the cardiovascular framework were rejected. The patients were haphazardly partitioned in to two gatherings of thirty patients each utilizing PC created irregular numbers.

RESULTS:

Gathering I: patients were given oral clonidine 4 mcg/kg body weights an hour and a half before induction (study gathering). Gathering II: patients were not given any examination medicate (control

gathering). A time of an overnight fasting was prompted. Every one of the patients was pre sedated with tablet Alprazolam 0.5 mg on the prior night surgery. On the day of medical procedure, benchmark circulatory strain and pulse of the considerable number of patients were recorded. All patients were given inj. glycopyrrolate 0.2 mg IV, inj. ranitidine 50 mg IV and inj. ondansetron 4 mg IV. Pulse and pulse were recorded at 30 minutes interim for three hours. After the landing of the patient in the activity theater, an 18 check canola was verified and associated with I've line. Patient was associated with a heart screen for account ECG in Lead II. After pre – oxygenation with 100% oxygen for 3 minutes the patient were incited with newly arranged thiopentone arrangement weakened to 2.5% at a pace of 1 ml/2sec. The portion of thiopentone sodium required to deliver loss of eyelash reflexes was recorded in all cases. This was quickly trailed by succinylcholine 1.5 mg/kg/body weight intra venously. A smooth and delicate direct laryngoscopy was done and suitable measured bound oro tracheal cylinder was kept set up with in fifteen seconds. At that point the patient was given a blend of 33% oxygen in N₂O with a pace of 14-15 ventilations for each minute. No unstable sedatives were utilized which would conceivably have caused myocardial despondency. Circulatory strain and pulse were additionally monitored when intubation.

Critical level for dismissing invalid theory was taken as $p < 0.05$. The information was dissected utilizing two followed tests for differences between methods for two examples (Z test) and in required circumstances utilizing x² test.

Sex dissemination: In Group I, 18 patients were male and 12 were female. In Group II, 17 patients were male and 13 were female. In both gathering I and Group II a transcendence of male patients is seen over female and sex conveyance was similar in the two gatherings. Sixty patients in the age gathering of 20-40 years of either sex had been chosen in this investigation in the examination Group I indicates the investigation patients and Group II the control patients. In both gathering I and gathering II the heaviness of the patients between 45-60 kg. Mean body weight in gathering I was 49.5 ± 5.1 kg and in gathering II was 50.1 ± 4.9 kg and was tantamount in both the gatherings.

Table 1: Division of age

Group 1			Group 2		
Age	No of patients	Ratio	Age	No of patients	Ratio
19-24	6	16.68	19-24	7	23.36
24-29	10	36.66	24-29	11	33.33
29-34	8	23.32	29-34	5	20.2
34-39	6	23.34	34-39	6	23.36

Table 2: Needs of thiopentone

	Group 1		Group 2		Z value	P value	Comments
	Average	SD	Average	SD			
Thiopentone needs Mg/kg	3.72	0.33	5.67	0.54	17.02	<0.0001	Greatly important

The above correlation uncovers that there is a noteworthy decrease in the portion necessity of thiopentone in gathering I than in gathering II patients.

Table 3: Contrast of systolic BP in group 1 and 2

Average time		Group 1		Group 2		Z gain	Comments
		SD	Average	SD			
Initial to preliminary treatment		121	6.23	-	-	-	-
Subsequent to preliminary treatment	½ hr	119.5	5.996	-	-	-	-
	1 hr	109.6	6.02	-	-	-	-
	Earlier than initiation	108.55	5.77	118.26	5.97	6.42	P<0.0001 VHS
	Subsequent to initiation	102.74	6.5	114.06	5.88	7.14	P<0.0001 VHS
	Subsequent to incubation	108.3	6.94	140.26	9.2	15.32	P<0.0001 VHS
	2 hr	109.66	7.06	137.55	7.36	14.8	P<0.0001 VHS
	2 ½ hr	112.34	5.7	132.14	6.43	12.55	P<0.0001 VHS
	3 hr	113.75	5.88	133	6.64	11.33	P<0.0001 VHS

The above information demonstrates that while there is an exceptionally noteworthy ascent of systolic pulse in gathering II following intubation, the systolic circulatory strain of gathering I stayed controlled aside from a drop after enlistment.

Figure 1:

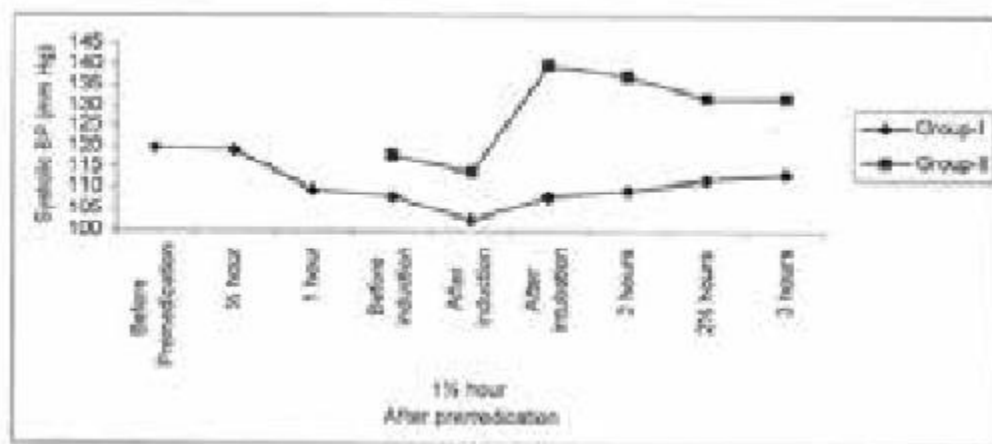


Table 4: Contrast of diastolic BP in group 1 and 2

Average time		Group 1		Group 2		Z score	Comments
		SD	Average	SD			
Prior to preliminary treatment		78.55	4.04	-	-	-	-
Subsequent to preliminary treatment	1/2 hr	78.5	4.03	-	-	-	-
	1 hr	76.26	4.25	-	-	-	-
	Prior to initiation	76.26	4.05	78.71	3.74	2.44	P<0.04SS
	Subsequent to initiation	74.12	4.5	78.15	3.72	3.85	P<0.01HS
	Subsequent to intubation	76.14	4.05	86.51	3.34	10.89	P<0.001VHS
	2 hr	76.7	4.8	83.45	4.3	6.33	P<0.001VHS
	2 1/2 hr	77.06	4.37	81.46	3.26	4.5	P<0.001VHS
	3 hr	78.2	3.76	80.05	3.16	2.13	P<0.05 SS

Figure 2:

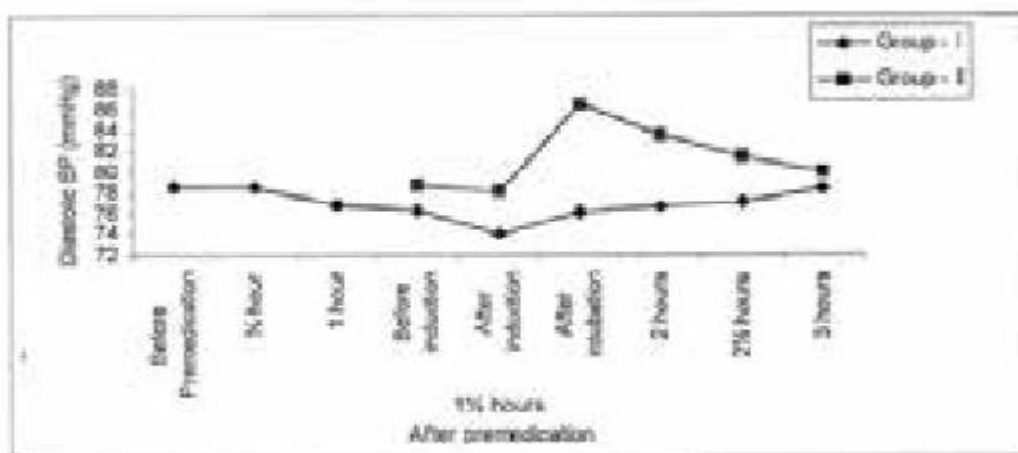


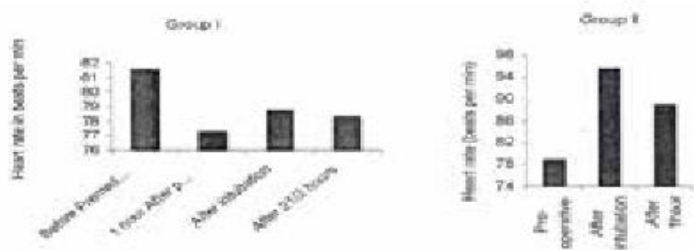
Table 5: Contrast of cardiac beat in group 1 and 2

Time	Group 1		Group 2		Z score	P value	Comments
	Average	SD	Average	SD			
Prior to preliminary treatment	81.52	5.68	78.86	7.03	-1.64	>0.06	NS
1 hr subsequent to preliminary treatment	77.35	5.46	-	-	-	-	-
Subsequent to intubation	78.72	5.73	95.42	7.08	10.024	<0.0001	VHS
Subsequent to 2 ½ hr	78.25	5.12	88	6.65	6.97	<0.0001	VHS

The above information demonstrates what there is an exceptionally noteworthy ascent of Diastolic circulatory strain in Group II following intubation

and the diastolic pulse of gathering I stayed controlled. This demonstrates oral clonidine pre prescription attenuate ascent of diastolic pulse.

Figure 3:



The above information demonstrates that while there is a huge ascent in the pulse in gathering II following intubation. The pulse in the gathering I stayed controlled after a little fall following premedication.

DISCUSSION:

In our investigation both examination and control gathering were additionally in a similar age gathering limits and in both the gathering the male and female proportion is likewise kept up same despite the fact that both groups demonstrated a male prevalence. Weight of the patient in both gathering likewise falls in a similar range [4]. A few medications have been utilized as premedication peri-operatively to create sedation, anxiolysis and for constriction of pressor reaction during laryngoscope and intubation. Clonidine offers one of a kind pharmacological profile with sedation, sympatholysis, absence of pain, narcotic and soporific saving impact, cardiovascular soundness with extraordinary bit of leeway to evade respiratory misery. Polypharmacy must be utilized

for premedication to deliver every one of the impacts which clonidine alone can do [5]. All variables which can impact the portion prerequisite of thiopentone were attempted to be disposed of and this was succeeded as it were. Imprint D Peterson et al found that clonidine diminished pinnacle isoflurane prerequisite, while giving predominant hemodynamic solidness during coronary vein medical procedure. Aloka Samantray et al found that clonidine premedication lessens post employable torment and decreases fentanyl prerequisite. In the investigation of Pradeep et al and Baskaran et al the acceptance portion of thiopentone was diminished by clonidine premedication. Nishina et al additionally watched decline in thiopentone requirement in patients pre-medicated with clonidine [6]. Our examination demonstrates noteworthy decrease in the thiopentone prerequisite in the investigation gathering (bunch I). Gathering I required just 3.73 ± 0.35 mg/kg/body weight of thiopental, while (Group II) control gathering required 5.68 ± 0.52 mg/kg/body weight.

The Z score was <0.0001 which shows in all respects exceptionally significant decrease in the thiopentone portion. In gathering I (study gathering) systolic pulse before pre medicine was 120 ± 6.24 mm. hg which dropped to 108.53 ± 5.73 mm .hg after pre drug. Also, further dropped to 102.73 ± 6.4 mm hg after acceptance and afterward rose to 108 ± 6.98 mmhg and gradually rose back to the benchmark 113.73 ± 5.87 mm hg inside one and thirty minutes after enlistment and afterward was kept up so. Laurido CE et al, Ghignone M et al, Nishikawa et al and Dipak et al found that clonidine diminished systolic pulse following intubation [7]. In gathering II pre employable systolic circulatory strain was 118.27 ± 5.98 mm hg which demonstrated a slight drop after enlistment to 114.07 ± 5.86 mm hg. During intubation it shoots up to 140.27 ± 9.1 mm hg which was profoundly critical and afterward stayed high all through the strategy at 132 ± 6.62 mm hg even following one and half hour. Laurido CE et al, Ghignone M et al, Nishikawa et al and Dipak et al found that clonidine reduced pulse following intubation [8]. The pulse likewise demonstrated ascent in group II after intubation from 78.87 ± 7.02 to 98.43 ± 7.09 thumps/minute, where as in gathering I following a little drop after pre medication, the pulse did not demonstrate an abrupt ascent after intubation. Indeed, even following one and half hour after medical procedure likewise pulse stayed at 89 ± 6.56 beats/minute in gathering II when contrasted with 78.27 ± 5.14 beats in gathering I. Laurido CE et al, Ghignone M et al, Nishikawa et al and Dipak et al found that clonidine decreased diastolic circulatory strain following intubation [9]. Diastolic pulse in gathering I demonstrated a drop after pre medicine from 78.53 ± 4.03 mm hg to 76.27 ± 4.06 mm hg and after enlistment further dropped to 74.13 ± 4.3 mm hg and afterward rose to 76.13 ± 4.03 mm hg after intubation. The pre usable diastolic circulatory strain was 78.73 ± 3.73 mm hg which indicated abrupt ascent to 86.53 ± 3.32 mm hg during intubation and gradually dropped to pre-usable level inside one and half hour after acceptance [10].

CONCLUSION:

We reasoned that pre drug with clonidine 4mcg/kg body weight an hour and a half before acceptance with thiopentone diminishes the necessity of thiopentone and furthermore weakens the pressor reaction during delicate and smooth direct laryngoscopy and intubation. It additionally keeps up hemodynamic solidness peri operatively.

REFERENCES:

1. Rathore, P., Saini, V., Ahmed, F., Chatterjee, R.,

& Rathore, M. (2019). A Comparative Study Of Oral Clonidine Versus Oral Pregabalin On Hemodynamic Responses To Laryngoscopy And Endotracheal Intubation Under General Anaesthesia. *International Journal of Medical and Biomedical Studies*, 3(4).

2. Singh, I., Gupta, K., Agarwal, S., Bansal, M. K., Samad, A., & Kalra, P. (2019). Clinical efficacy of oral gabapentin versus clonidine for preemptive analgesia in knee arthroplasty under epidural anesthesia with 0.75% Ropivacaine—A comparative study. *Indian Journal of Pain*, 33(1), 15.
3. Arora, S., Saini, K., & Bhardwaj, N. (2019). A comparative evaluation of midazolam, clonidine and dexmedetomidine as oral premedicants in children: A double blind randomized clinical trial. *Anesthesia, Pain & Intensive Care*, 355-360.
4. Mishra, A., Gupta, Y., Puri, R., Chak, S., & Chand, T. (2019). PREANESTHETIC MEDICATION IN CHILDREN: A COMPARATIVE STUDY AMONG INTRANASAL DEXMEDETOMIDINE, ORAL MIDAZOLAM AND ORAL CLONIDINE. *Indian Journal of Applied Research*, 9(2).
5. Madhuri, P., & Grandhi, M. P. (2019). A Comparative Study Of Oral Clonidine Versus Oral Gabapentin Premedication In Attenuation Of Pressor Response During Laryngoscopy And Endotracheal Intubation. *International Journal of Scientific Research*, 8(6).
6. Paul, S., Biswas, C., & Chakraborty, S. (2019). Comparison Of Oral Premedication Between Midazolam And Clonidine For General Anaesthesia In Elective Open Abdominal Surgery. *International Journal of Scientific Research*, 8(8).
7. Banerjee, A., & Haldar, R. (2019). Oral Clonidine Versus Gabapentin For Attenuation Of Haemodynamic Surge During Endotracheal Intubation. *International Journal of Scientific Research*, 8(3).
8. Parida, D. P., & Tripathy, N. R. (2019). A Comparative Evaluation Of Oral Gabapentin And Intravenous Clonidine Premedication For Postoperative Analgesia And Analgesic Requirement Following General Anesthesia For Abdominal Surgeries. *Paripex-Indian Journal Of Research*, 8(6).
9. Soni, M., Grover, N., & Sood, S. (2019). KEYWORDS Laryngoscopy, Intubation, Hemodynamic Changes, Pregabalin, Clonidine. *A comparative clinical evaluation of oral clonidine vs. pregabalin premedication for*

attenuation of haemodynamic response to laryngoscopy and intubation-a prospective randomised double blinded placebo-controlled study, (98231).

10. Pareek, R., Sharma, K., &Sunar, R. C. (2019). Study Of Haemodynamic Changes Of Two Different Doses Of Intravenous Clonidine Premedication During Laparoscopic Cholecystectomy. *International Journal of Scientific Research*, 8(4).