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Research Article

**CONSEQUENCE OF VENOUS CLONIDINE ON HEMODYNAMIC
VARIATIONS IN LAPAROSCOPIC CHOLECYSTECTOMY: THE
RANDOMIZED REGULATE RESEARCH**

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Abstract:

Background: Laparoscopic operation remains related through substantial hemodynamic also pathophysiological vicissitudes owing to formation of pneumoperitoneum. Clonidine remains identified to constrain catecholamine also vasopressin announcement throughout pneumoperitoneum. The current randomized, measured research remained showed to assess consequence of management of venous clonidine for regulator of hemodynamic replies throughout laparoscopic operation also to appraise obligation of propofol throughout laparoscopic operation.

Methodology: Overall 70 cases experiencing elective laparoscopic cholecystectomy remained randomized from September 2017 to March 2018 at Mayo Hospital Lahore into Set-C (clonidine set) also Set-S (saline set). In clonidine set respondents acknowledged 4µg/kg of clonidine diluted in 11 ml saline concluded 12 min, whereas in saline set respondents acknowledged 11 ml saline. Introduction of anesthesia remained identical in mutually sets. Heart Rate, systolic, diastolic BP also average major heaviness remained restrained beforehand premedication, beforehand introduction, afterward intubation, beforehand CO₂ insufflation, afterwards insufflation also then afterward at 18 minutes intermission till exsufflation also afterwards extubating. Propofol obligation remained designed in mutually sets.

Statistical Analysis: Unpaired 'T' examination remained exercised to associate together sets. Verdict of smearing unpaired t-test stayed grounded on ordinariness exam.

Results: HR, systolic, diastolic also average major BP remained expressively fewer in clonidine set as associated to regulator set. Intraoperatively here remained substantial HR difference in regulator set $83.94 \pm 7.54/\text{min}$ to $97.14 \pm 7.81/\text{min}$ than in clonidine set $87.31 \pm 10.13/\text{min}$ to $74.14 \pm 9.52/\text{min}$ ($P < 0.002$). Average BP diverse from 95.52 ± 5.83 mmHg to 103.19 ± 6.57 mmHg in regulator set whereas in clonidine set this diverse from 95.15 ± 8.83 mmHg to 73.63 ± 2.88 mmHg. ($P < 0.002$). Propofol prerequisite remained expressively fewer in clonidine set.

Conclusion: Management of clonidine weakens hemodynamic answer to pneumoperitoneum also decreases necessity of propofol.

Key words: Clonidine, Propofol, Laparoscopic operation, Pneumoperitoneum.

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INTRODUCTION:

Laparoscopic cholecystectomy has end up being gold in vogue cautious alternative for cholelithiasis. It is an approach with greatness advantage, abatement of sanatorium stays, less postoperative hurt and less inauspiciousness; that make it method for tendency for nerve stone disease [1]. Regardless, in articulations of narcotic thought, a raised avionics course weight, raised blood strain regards, lessened ventilatory cutoff points as properly as related hypercarbia have been the issues to be tended to. Pneumoperitoneum impacts diverse homeostatic structures guideline to modification in destructive base evening out, cardiovascular and aspiratory physiology and stress response [2]. The cardiovascular adjustments related with pneumoperitoneum consolidate a strengthen in suggest vein weight, limit in heart yield and make more prominent in principal vascular hindrance, which in flip exchange off tissue perfusion. Clonidine, an imidazoline backups a particular alpha-2 adrenergic against and a solid antihypertensive medicine that makes fall in weary, circulatory strain, SVR and cardiovascular yield [3]. Clonidine limits the entry of catecholamines also vasopressin in addition as such manages the hemodynamic variations incited through techniques for pneumoperitoneum in laparoscopic therapeutic method. Intravenous clonidine was experienced in earlier as premedicate in neurosurgical cases, cascade restorative methods also orthopedic systems needing use of bandage yet actual rare examinations remain advantageous that were exercised intravenous clonidine as premedicate for hindering ominous hemodynamic modifications all through laparoscopic cholecystectomy [4]. Seeing altogether of those annotations current examination remains planned to appraise kind also level of hemodynamic variations, sufficiency of clonidine in balancing activity of hemodynamic alterations as enjoyably as to arrange out over-all propofol necessities for the range of laparoscopic cautious treatment [5].

METHODOLOGY:

Subsequently support from recognized morals board also formed taught agreement from respondents this arranged, randomized twofold outwardly weakened get some answers concerning used to be performed from September 2017 to March 2018 at Mayo Hospital Lahore. Seventy patients, ages 19-66 years, ASA physical qualification 1-2, Body Mass Index 31 kg/m, encountering non-required laparoscopic cholecystectomy under general anesthesia, had been erratically divided into 2 sets, Set-C (clonidine set)

also Set-S (saline set), the usage of pc delivered randomization list. Set part remained performed through methods for an anesthesiologist who remained never again the section of get some answers concerning plan. Prescriptions were overseen by anesthesiologist who used to be by and by not the zone of bits of knowledge course of action and examination. In clonidine set patients got four μ l/kg of intravenous clonidine debilitated to 11 ml run of the mill saline over 12 minutes as premedication, whereas in saline set tolerant picked up 11 ml traditional saline over 12 minutes. On the off chance that there ought to be an event of hypotension me phentermine 7 mg and for bradycardia atropine 0.7 mg used to remain exercised as the saving cure. In the running room, intravenous cannula remained when confirmed and fundamental screens have been joined. Watching guaranteed HR, SBP, diastolic circulatory strain, recommend vein weight, beat oximetry, and stop tidal CO₂. All sufferers were worked in 16° head-up tilt. Intraabdominal stress used to be secured at thirteen mmHg. Broken astonishing weight wind stream used to be passed on with tidal degree and respiratory rate adjusted to secure EtCO₂ some place in the scope of 37 and 47 mmHg. Data recorded was HR, SBP, diastolic heartbeat, propose vein weight, EtCO₂, SpO₂ after intubation, sooner than insufflations, after insufflation and thereafter each and every 17 min interval till disinflation and in the wake of extubating. Propofol imbuement was once stopped after exsufflation and measure of propofol used to be noted. Close to the completing of medicinal strategy, remaining neuromuscular square was once insulted through neostigmine also atropine, in addition every affected individual was extubated when he/she was once totally wake, also traded to repairing room. In the post anesthesia care unit, they had been watched for complexities or hurting occasions comparable bradycardia and hypotension.

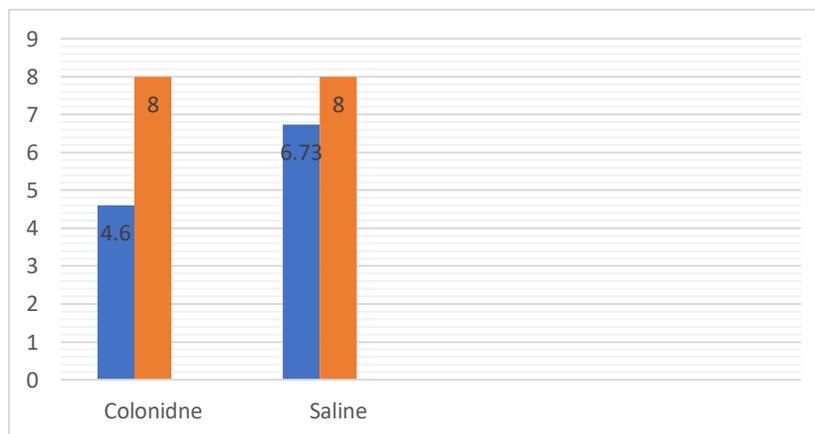
RESULTS:

Measurement information when dismembered did now not show any tremendous refinement in age, weight, among find a few solutions concerning units and as a result 2 sets have been equivalent. P<0.06. Mean length of pneumoperitoneum in clonidine set was once 88.51 min towards 84.34 min in regulate gathering, that remained quantifiably not sizeable (P value 0.06). Mean time of propofol use used to be 105.51 min in clonidine set against, 98.68 in control set, which was genuinely no longer incredible estimated (P value 0.06). Relationship of HR showed incredible evaluated differentiate at altogether breaks

beside at earlier premedication and sooner than enrollment with a P cost of 0.107 and 0.382 exclusively. Average Heart Rate gathered from $87.31 \pm 10.13/\text{min}$ to $74.14 \pm 9.52/\text{min}$ in clonidine set whereas in regulator bunch it orchestrated from $83.94 \pm 7.54/\text{min}$ to $97.14 \pm 7.81/\text{min}$ (P 0.002). Here remained once massive climb in Heart Rate subsequently intubation also after insufflations and all through perioperative period. HR remained steady in the midst of perioperative term in clonidine bunch that remained once tremendous (P 0.06). (Figure 1). Examination of SBP displayed goliath assortments at altogether breaks beside sooner than premedication (P = 0.237). Mean SBP extraordinary in connection to 123.71 ± 12.05 to 98.74 ± 5.17 mmHg in clonidine set while in control set it not exactly equivalent to 126.54 ± 7.81 to 137.68 ± 8.72 (P 0.002). There was gigantic upward push in SBP subsequently intubation also subsequently insufflations in addition persisted on higher perspective in administer gathering. Whereas in clonidine set it remained very secure after intubation and after insufflations and all through perioperative range (P = 0.06). Examination of DBP proposes limitless differentiation at completely breaks barring sooner than premedication (P = 0.602). Mean DBP not equivalent to 80.86 ± 8.24 to 60.08 ± 4.36 in clonidine set while in control bundle it changed from $78.01 \pm$

6.41 to 85.94 ± 6.76 (P 0.002). There used to be mind boggling upward push in DBP afterwards intubation also subsequently insufflations also endured on more noticeable point of view in direct assembling. While in clonidine bundle diastolic circulatory strain stays secure all through intraoperative also post operational range (P 0.06). Here remained incredible estimated capability in MAP in units at altogether breaks besides, beforehand premedication (P = 0.829). Guide not the same as 95.15 ± 8.83 to 73.63 ± 2.88 in clonidine set whereas in control pack it one of a kind in connection to 95.52 ± 5.83 to 103.19 ± 6.57 (P 0.002). Guide stays on inferior adjacent in clonidine pack subsequently intubation besides after insufflations in addition for term of intraoperative also post operational length in clonidine bundle whereas in control bunch this endured on more critical side (P 0.06). The SpO₂ in each set remained in the contrast of 99 to 100% and there used to be no verifiable refinement found amidst two units (P 0.06). Normocapnia used to be kept up in the midst of cautious treatment in the two units and there was at one time no accurately refinement in EtCO₂ stretches out between the two social affairs (P 0.06). Full scale propofol need was out and out less in clonidine set than control gathering (5.58 versus, 7.72 mg/kg/hr.) that remained once accurately extensive (P 0.06).

Figure 1: Propofol necessity amongst two sets:



DISCUSSION:

Laparoscopic cholecystectomy has won reputation in contemporary helpful exercise rather than exposed cholecystectomy. Undertakings that when essential extended hospitalization remain at present being finished on a quick remain premise. The inclinations remain; little passage focuses, diminished postoperative throb and uneasiness, shorter prosperity office stay, early ambulation and early returned to

work [6]. Pain relieving organization of these sufferers is perilous with the guide of otherworldly physiologic delayed consequences of pneumoperitoneum also case arranging. The level of cardiovascular alterations related by pneumoperitoneum fuses an extension in vein loads, reduce in heart yield, extend in SVR also PVR that in flip exchange off matter perfusion [7]. The present get some answers concerning has surveyed the effect of intravenous clonidine all through

laparoscopic cholecystectomy medical procedure underneath standard anesthesia [8]. The hemodynamic pressor response used to be feasibly reduced and the need of propofol used to be essentially lessened with the guide of clonidine. In our examination, clonidine 4 mg/kg IV has tightened weight reply through using pneumoperitoneum. Current outcomes demonstrate that hemodynamic parameters remain reliable in the midst of intraoperative period, in addition need of propofol is diminished, giving resolute hemodynamic and security in spite of push response [9]. Clonidine has been used in a critical number of segments (from 3 to 9 µg/kg) to debilitate hemodynamic replies to pneumoperitoneum in laparoscopic cholecystectomy. Malek et al experienced one hundred fifty µg of clonidine as IV imbue and intramuscularly while Sung et al and Yu et al used one hundred fifty-five µg of oral clonidine as premedication for preservation of hemodynamic equality all through pneumoperitoneum. They saw that clonidine furnished sensibly charmingly hemodynamic security at those doses beside ruinous belongings. Shaft et al also Alton et al exercised IV four µg/kg clonidine 17 min going before acknowledgment, seen by strategies for consistent blend. Researchers exercised 4 µg/kg clonidine in premedication pervaded concluded 11 minutes. Not any intraoperative distillation remained assumed; henceforth occurrence of hypotension also bradycardia remained unimportant in the existing research [10].

CONCLUSION:

Clonidine 4 µg/kg intravenously in premedication remains actual in averting hemodynamic strain reply throughout laparoscopic cholecystectomy. This remains similarly cost actual in rapports of decrease in prerequisite of propofol.

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