



PRE-OPERATIVE SEDATION USING ORAL CLONIDINE VS ORAL GABAPENTINE

Anaesthesiology

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ABSTRACT

The anticipation of undergoing surgery or anesthesia can cause psychological stress to patients which are manifested as anxiety. The cause of patients' preoperative anxiety is multifactorial. It can be divided into three distinct dimensions of anxiety, 1) fear of the unknown. 2) Fear of the waiting period before surgery/anesthesia. 3) Fear of unconsciousness and other anxieties like fear of feeling ill, fear of postoperative nausea or vomiting fear of perioperative pain, fear of the discomfort of postoperative awakening fear of intraoperative awareness, fear of one's life fear of not regaining consciousness, a fear of dying or remaining in coma, fear of anesthesia-induced physical or mental harm. This study puts in a effort to study the pre-operative sedation using oral clonidine vs oral gabapentine.

KEYWORDS

Clonidine, Gabapentin, Pre-anesthetic, Stress

Introduction:

Anxiety is a "psychophysiological phenomenon experienced as a foreboding dread or threat to a human organism whether the threat is generated by internal, real or imagined dangers.¹ Anxiety has been described as a subjective feeling of distress and anguish that has affective, motivational, behavioral, and physiological components.² A key feature of anxiety is its subjective nature. The anticipation of undergoing surgery or anesthesia can cause psychological stress to patients which are manifested as anxiety.³ The cause of patients' preoperative anxiety is multifactorial. It can be divided into three distinct dimensions of anxiety, 1) fear of the unknown. 2) Fear of the waiting period before surgery/anesthesia. 3) Fear of unconsciousness and other anxieties like fear of feeling ill, fear of postoperative nausea or vomiting fear of perioperative pain, fear of the discomfort of postoperative awakening fear of intraoperative awareness, fear of one's life fear of not regaining consciousness, a fear of dying or remaining in coma, fear of anesthesia-induced physical or mental harm. Young patients, female patients, patients with less education and patient's with no previous anaesthetic experience or a previous negative anaesthetic experience will have higher anxiety scores-4 Operations associated with high preoperative anxiety include thoracic and otorhinolaryngological surgery.⁴ It has been shown that psychologically prepared patients who are less anxious before surgeries have improved postoperative clinical recovery as assessed by outcomes such as pain and analgesic use, postsurgical complications, and hospital stay.^{5,6,7} This study puts in a effort to study the pre-operative sedation using oral clonidine vs oral gabapentine.

MATERIALS AND METHODOLOGY:

This study was done in the Department of Anesthesia, Azeezia Institute of Medical Sciences, Kerala.

This study was done from June 2017 to May 2018.

Hospital ethical committee clearance was obtained for this study. Written informed consent was taken from all the patients. Patients taken into study were posted for Surgical, Orthopedic, Gynaecological procedures under combined spine epidural block. Source of data: Adult patients 18-50 yrs of physical status ASA I and II scheduled to undergo elective surgical procedures under combined spinal epidural block for lower limb and abdominopelvic surgeries Study Design: A prospective randomized comparative study was planned. 100 patients satisfying all the inclusion criteria were enrolled in the study.

Patients were divided into 2 groups. Group G and Group C. All patients were assessed the day before surgery. 1 Tablet of Gabapentin (300 milligrams) was given for Group G patients. 1 Tablet of Clonidine (100 micrograms) was given for Group C patients. Visual analogue anxiety score (0= no anxiety, 100= worst imaginable anxiety) was explained to them. Upon arrival in the operating room, baseline reading of all vital parameters was taken. Then intravenous access was secured by an 18G

venous catheter inserted into a peripheral vein and Ringer lactate solution was started. Monitoring of non-invasive blood pressure (NIBP), heart rate, electrocardiogram and arterial oxygen saturation was carried out.

Results:

Image 1: Mean Blood Pressure

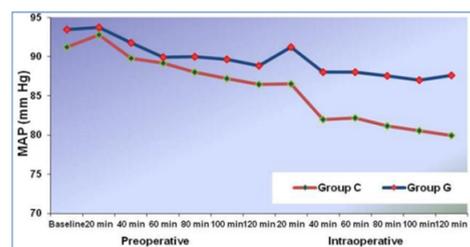


Image 2: Heart Rate

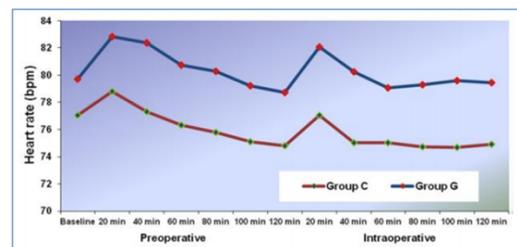
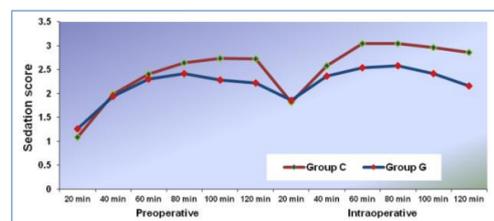


Image 3: Sedation Score:



Discussion:

Preoperative anxiety has been found to be a major predictor of post-operative pain apart from type of surgery, age of the patient and related psychological distress. 14 Anxiety lowers pain threshold, results in exaggeration of pain intensity and activation of hippocampal formation. It not only changes doses of drugs which are needed for induction, maintenance of anaesthesia, recovery from anaesthesia, but

also it affects psychological condition of patients. Stress and anxiety activate hypothalamopituitary-adrenal axis and increase glucocorticoid level. Stress releases hormones such as cortisol, catecholamines and cytokinine. These hormones increase negative nitrogen balance and catabolism and ultimately delay wound repair and weaken immune system postoperatively. Hence ASA task force in its guidelines for acute pain management has recommended premedication before surgery to be included as a part of multimodal analgesia. Clonidine is a selective central α_2 agonist and is a potent antihypertensive drug. The alpha 2-adrenoceptor agonists have several beneficial actions during the perioperative period. They exert a central sympatholytic action, improving haemodynamic stability in response to endotracheal intubation and surgical stress, reducing the anaesthetic and opioid requirements and causing sedation, anxiolysis and analgesia. The alpha2-adrenoceptor agonists have an analgesic action at several sites of the peripheral and central nervous system as well as the prolongation of epidurally or intrathecally administered local anaesthetics and opiodes techniques in pain management. Oral Clonidine at a dose of 1.5-2 micro/kg combines the advantages of benzodiazepines and morphine i.e. anxiolysis, sedation and analgesia with stable haemodynamics and respiration.

CONCLUSION:

Preoperative anxiety has been found to be one of the major predictor of postoperative pain. The postoperative period was defined as the period between arrivals of the patient in recovery to 7 days after surgery, with day 1 being 24 hours after surgery. Our goal was to compare the preoperative sedation produced by oral Gabapentin and oral Clonidine. The Ramsay sedation score which was used in this study showed a better sedative effect by Clonidine than Gabapentin in the preoperative and intraoperative period.

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