



Does Granisetron Pretreatment Relieve Pain Due to Propofol Injection?

Vijaya Sai and Shaila S. Kamath*

Department of anesthesiology, Kasturba medical college, Mangalore, Manipal University, India

E-mail: shailakamath @ymail.com

ABSTRACT

Background: Propofol is that the most ordinarily used induction agent, but causes pain on injection in many patients. Various techniques are tried and tested for reducing pain thanks to propofol injection with different results.

Objective: to match the utilization of pretreatment with granisetron as compared with lignocaine in reducing pain on propofol injection.

Patients and Methods: 104 patients (ASA I-II) posted for elective surgeries under general anesthesia were randomized into two groups and managed as follows: Group G: 2ml (1mg/ml) granisetron, and group L; 2ml of twenty-two lignocaine pretreatment using tourniquet followed by 2ml (20mg) of propofol injection and pain assessment was done by a independent observer and graded as either severe, moderate, mild or no pain consistent with the response of the patients to the injection.

The study was performed in the department of Anesthesiology, at Kasturba medical college associated hospitals, at Attavar, Ambedkar circle and Government Wenlock hospital, Mangalore from September 2012 to July 2014. The study is a double blind, randomized, clinical trial. The study participants were patients with age group 18-60 years, either sex of ASA physical status 1 and 2 undergoing elective surgical procedures under general anesthesia. Patients who refused to give consent, patients with ASA 3 or 4 status, history of allergy to any of the study drug, hemodynamically unstable patient, those who had analgesics as premedication, participants with difficult IV cannulation and pregnant women were not included in the study. The sample size required for correctly rejecting the null hypothesis with the power of 80% and 95% confidence interval was calculated and was determined that 52 participants were required in each of the two groups receiving either intravenous granisetron (2mg/2ml) or intravenous lignocaine (40mg/2ml). After approval from the institute's scientific and ethics committee and after obtaining written and informed consent the participant took part in the study. Participants were assessed pre-operatively to check against the exclusion criteria of the study. The participant received premedication with tablet Lorazepam 2mg, the night before surgery. After shifting to operation room, venous cannulation was done under aseptic precautions in a large peripheral vein using an 18G cannula and connected to normal saline or ringer lactate at 10-15ml/kg/hr. Participant was then connected to the monitor to

record heart rate, blood pressure and saturation during the procedure. Venous occlusion of the arm was maintained with a tourniquet tied 12-15 cms proximal to the puncture site. The tourniquet was tightened to a point where the intravenous fluid stopped flowing, thus ensuring venous occlusion. Participants were randomized to receive intravenously either granisetron 2ml (1mg/ml) or 2ml of 2% lignocaine (preservative free) based on the random number table. The intravenous infusion was then closed during the period of occlusion to prevent backflow of blood or the injected drug into the infusion line. After 1 minute of giving the study drug occlusion was released and the participant received propofol 2mg/kg. The first 2ml bolus was Kamath .104-109 given over 4 seconds and within 15 seconds the patient will be asked to rate his pain sensation. The same propofol formulation was used in all the patients. An anesthetist blinded to the study protocol was made to gauge the pain during injection of propofol employing a four point verbal rating (McCrirrick and Hunter) scale 4 used in the earlier studies.

Results: In lignocaine group the incidence of pain was 21.2% compared to 46.2% within the granisetron group.

From our study pre-treatment with lignocaine is proved to be more effective in controlling pain on propofol injection than granisetron. However granisetron does reduce pain in additional than 50% subjects making it an alternate choice thanks to its additional property to stop postoperative nausea, vomiting.

Keywords: Dexmedetomidine, etomidate, granisetron, injection pain, lidocaine