Comparison the effect of Ondansetron and Meperidine in the prevention of post operative shivering after general anesthesia

Abstract

Introduction: Post operative shivering is one of the common problems after general anesthesia and may lead to multiple complications such as latent recovery from anesthesia and heart problems. Different drugs and methods have been used in prevention and treatment of the post operative shivering. The aim of this study was to examine the effects of pre-anesthesia administration of ondansetron and meperidine on the post operative shivering incidence in compare to the effect of placebo.

Methods: In this randomized placebo control double-blind clinical trial, 90 patients were scheduled for elective gynecology operations, randomly assigned to one of three groups. In first group, 4 mg of ondansetron, in second group, 0.4 mg/kg meperidine and in third group (control group) 2 cc normal saline were administered immediately before the induction of anesthesia. In all patients anesthesia induced equivalently. Core temperature, dermal temperature, systolic and diastolic blood pressure and heart rate of patients were measured before the induction of anesthesia and during that, and in the recovery room. Also incidence of postoperative shivering, nausea and vomiting was monitored and recovered by the nurse who was responsible for the recovery section.

Results: Post operative shivering was observed in 13.3% of patients in ondansetron group and 20% of meperidin group which were significantly less than the incidence of post operative shivering in control group (50%) (P<0.05). The reduction of core and dermal temperature during the anesthesia and recovery was seen in all three groups of study and did not significantly differ from each other (P>0.05). The changes of systolic and diastolic blood pressure and heart rate did'nt show any significant difference, In three groups (P>0.05). The incidence of nausea was similar among three groups of study (10%, three patients in each group), however, vomiting was found in 6.7% of meperidine and 3.3% of contol group. None of the patients of ondensetron group had post operative vomiting.

Conclusion: Administration of 4 mg ondansetron before the induction of anesthesia has significant effect on the reduction of operative shivering incidence. As a result of hemodynamic stability can be used in outpatients operation particularly in patients with cardiovascular diseases.

Key Word: General anesthesia, Post operative shivering, Ondansetron, Meperidine.