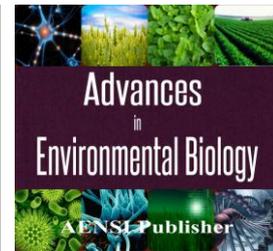




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### Comparison of Propofol efficacy alone and in conjunction with Ondansetron for prevention of nausea and vomiting during laparoscopic surgery in Amir-al-momenin hospital, 2011-12

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#### ABSTRACT

**Introduction:** One of the main problems in laparoscopic surgery of the abdomen is nausea and vomiting after surgery. Different drugs are used to prevent and reduce it. **Objective:** This study compared the efficacy of Propofol alone and in conjunction with Ondansetron for prevention of nausea and vomiting during laparoscopic surgery in Amir-al-momenin, 2011-12. **Methods:** In this study, clinical trial of 210 patients having inclusion criteria were examined in two groups. After induction of general anesthesia in group 1 (N = 105), The infusion of Propofol was 2mg/kg per hour and in group 2 (N = 105) apart from Propofol, 4 mg dose of Ondansetron was injected 15 minutes before the end of surgery and the incidence of nausea and vomiting after surgery, were compared between 2 groups until next 24 hours. **Results:** The rate of nausea and vomiting after surgery, in group of propofol alone (22.9%) and in group of Propofol + Ondansetron (75%) based on P was less than 0.05, and the difference was significant.

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## INTRODUCTION

Today, elective abdominal surgeries are performed significantly with laparoscopy. Despite decreased abdominal complications than open surgery, one of its significant problems is post-operative nausea and vomiting about 40-70%. In order to prevent and to reduce the incidence of nausea and vomiting, various drugs are used.

#### Aim of study:

This study is an interventional clinical trial, aimed to compare the efficacy of Propofol alone and Propofol plus Ondansetron for the prevention of nausea and vomiting after laparoscopic abdominal surgery with general anesthesia.

#### Methodology:

Among patients admitted for laparoscopic abdominal surgery (cholecystectomy) with general anesthesia and anesthesia class I and II and ASA , 210 patients according to the formula:

$$(Z (1-\alpha / 2) + Z 1-\beta) 2 / (P 1-P 2) 2 * N = [P 1 (1-P 1)] + [P 2 (1-P 2)]$$

Who had the inclusion criteria and completed the consent form, were selected for one year and in two groups of 105 patients in each were studied. All of the samples were in the same conditions after preparation and complete monitoring of induction of general anesthesia and were received pre-operative sedation of Midazolam and Fentanyl and were injected Thiopental Sodium and Atracurium.

In Group 1 as a control group, following the anesthesia, 2mg/kg/h of Propofol was infused..

In group 2, beside Propofol, 4mg of Ondansetron , was injected 15 min before the end of surgery. At the same time, the first group was injected with the same volume of distilled water.

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The rate of post-operative nausea and vomiting has been measured in the recovery room and until next 24 hours in both groups and using the SPSS software and statistical methods they were compared. Surgeon and his measuring team were not informed of syringe content.

#### Results:

The mean age of Propofol group was 46 years old with standard deviation (SD) of  $\pm 11.1$  and in Propofol + Ondansetron group was 49 years old with SD of  $\pm 10.5$ . In Propofol group, there were %53.3 men and %46.7 women and in other group, there were %55.2 men and %44.8 women.

The rate of nausea and vomiting in Propofol group was %22.9 and in other group was %50 and  $P=0.00$  and there was a significant relationship according to  $K^2$  test.

Within first 12 hours, postoperative nausea and vomiting in group 1, was %6.7 and in group 2, was %8.5 and  $p>0.5$  and was significant.

Within second 12 hours, postoperative nausea and vomiting in group 1, was %1.9 and group 2 was %1 and there was no significant difference.

#### Discussion and Conclusion:

Laparoscopic abdominal surgery for cholecystectomy and other elective abdominal operations has found its niche because of fewer complications, less pain and earlier patient discharge. Although this method has a high risk of postoperative nausea and vomiting about 40 to 70 percent, but the drugs and different methods are used to reduce and to treat it. Therefore, Propofol plays a role in this procedure because of the antiemetic properties along with antiemetic drugs such as Serotonin antagonists (Ondansetron) and Dexamethasone and Metoclopramide corticosteroids.

In a study in 2000 by Mr. Alghanam and colleagues in Oman, they compared Dexamethasone and Ondansetron in laparoscopic surgery in order to reduce the incidence of nausea and vomiting and the efficacy of Ondansetron was higher but there was not any significant difference (6). In another study by Fujii in Japan, he compared Propofol with Dexamethasone and Ondansetron and showed the rate of nausea and vomiting reduction was higher in Propofol and Ondansetron.

In another study by Bano And colleagues in Pakistan, the effectiveness of Dexamethasone plus Ondansetron in reducing postoperative nausea and vomiting after laparoscopy was greater than Dexamethasone alone.

In the study by Reader in 1998, Propofol and Desflurane were used and had no significant difference in reducing the rate of nausea and vomiting after laparoscopy.

In our study, given the substantial and significant efficacy of Propofol and Ondansetron in reducing nausea and vomiting after laparoscopic surgery is suggested that followed anesthesia of patients should be with Propofol, and Ondansetron and Dexametasone should be used together in order to reduce post-operative nausea and vomiting in the recovery room and within first 24 hours more.

#### REFERENCE

- [1] Vanderpool, D., M.V. Westmoreland, 2000. Laparoscopically assisted colon surgery. Proc (Bayl Univ Med Cent), 13(3): 211-3.
- [2] Kovac, A.L., 2000. Prevention and treatment of postoperative nausea and vomiting. Drugs, 59(2): 213-43.
- [3] Fujii, Y., 2005. The utility of antiemetics in the prevention and treatment of postoperative nausea and vomiting in patients scheduled for laparoscopic cholecystectomy. Curr Pharm Des, 11(24): 3173-83.
- [4] Fujii, Y., 2011. Management of postoperative nausea and vomiting in patients undergoing laparoscopic cholecystectomy. Surg Endosc, 25(3): 691-5.
- [5] Erk, G., G. Erdogan, F. Sahin, 2007. Anesthesia for laparoscopic cholecystectomy: comparative evaluation desflurane/sevoflurane and propofol. Middle East Anesthesiol, 19(3): 553-62.
- [6] Alghanem, S.M., I.M. Massad, E.M. Rashed, 2010. Optimization of anesthesia antiemetic measures versus combination therapy using dexamethasone or ondansetron for the prevention of postoperative nausea and vomiting. Surg Endosc, 24(2): 353-8.
- [7] Gautam, B., B.R. Shrestha, P. Lama, 2008. Antiemetic prophylaxis against postoperative nausea and vomiting with ondansetron-dexamethasone combination compared to ondansetron or dexamethasone alone for patients undergoing laparoscopic cholecystectomy. Kathmandu Univ Med J (KUMJ), 6(23): 319-28.
- [8] Elhakim, M., M. Nafie, K. Mahmoud, 2002. Dexamethasone 8 mg in combination 4 mg appears to be the optimal dose for the prevention of nausea and vomiting after laparoscopic cholecystectomy. Can J Anaeth, 49(9): 922-6.
- [9] Raeder, J.C., O. Mjaland, V. Aasbo, 1998. Desflurane versus propofol maintenance for outpatient laparoscopic cholecystectomy. Acta Anaesthesiol Scand, 42(1): 106-10.

- [10] Bano, F., S. Zafar, S. Aftab, S. Haider, 2008. Dexamethasone plus ondansetron for prevention of postoperative nausea and vomiting in patients undergoing laparoscopic cholecystectomy: a comparison with dexamethasone alone. *J Coll Physicians Surg Pak*, 18(5): 265-9.