

Health outcome of interest

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Group 1, consisting of control patients, received 0.9% NaCl; group 2 patients received ondansetron 4 mg i. v.; group 3 patients received granisetron 3 mg i. v.; and group 4 patients received dexamethasone 8 mg i. v., all before the induction of anesthesia. Both nausea and vomiting were assessed during the first 24 h after the procedure.

The effect on impaired wound healing, postoperative infection, or other complications associated with the use of dexamethasone were observed.

Inclusion/Exclusion Criteria and Initial Sample Size in Each Arm:

Initial Sample Size: 80 patients (61 women and 19 men).

Inclusion Criteria: A total of 80 American Society of Anesthesiologists (ASA) physical class I-II patients scheduled for laparoscopic cholecystectomy were included. The age range was from 21 to 75 years (mean: 51.5 years). Each patient gave his or her written consent to participate in the study. The study was approved by the Medical University ethics committee.

The exclusion criteria: The patients' exclusion criteria were as follows:

American Society of Anesthesiology (ASA) physical class III-IV; age over 75 years; body mass index above 30; pregnancy; smoking; signs of gastrointestinal, endocrine, renal, hepatic or immunological disease; use of opioids or tranquilizers less than 1 week before the operation; treatment with steroids; history of alcohol or drug abuse; history of motion sickness; preoperative diagnosis of gallbladder empyema and previous endoscopic sphincterotomy for common bile duct stones; and conversion to open cholecystectomy.

Data Collection at Baseline:

The incidence of nausea and vomiting was recorded during three assessment periods, 0–6 h, 6–12 h, and 12–24 h, by nursing staff without knowledge of

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which antiemetic the patients had received. Both nausea and vomiting were assessed. In the first interval (0–6 h) after the operation, nausea and vomiting were most frequent in the control group compared with the other three groups, all of which were given antiemetics ($p < 0.05$). At that time (0–6 h), the need for rescue antiemetic vomiting was also the most frequent in the control group compared with the other three groups given antiemetics ($p < 0.05$)

Blinding of Subjects and Use of Placebo:

A randomized, double-blind, placebo-controlled study was conducted on the patients who were divided into four groups ($n = 20$ each).

Type of Data Analysis:

Results were calculated as mean \pm standard deviation (SD). Parametric data were analyzed with a one-way analysis of variance (ANOVA), and for nonparametric variables, the chi-square test was used; where $p < 0.05$ was considered significant.

Results/Main Findings of the Study:

The total incidence of PONV was 75% with placebo, 35% with ondansetron, 30% with granisetron, and 25% with dexamethasone during 24 hours. The incidence of PONV was significantly less frequent in groups receiving antiemetics ($p < 0.05$). The differences between dexamethasone, granisetron, and ondansetron were not significant.

Comments (including generalizability of the study):

Dexamethasone 8 mg i. v. alone can act as an antiemetic for the prevention of postoperative nausea and emesis.

Prophylactic dexamethasone is a simple, safe, cheap, and effective antiemetic drug for the patients undergoing laparoscopic cholecystectomy.

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Dexamethasone was as effective as ondansetron 4 mg and granisetron 3 mg and it was more effective than a placebo. The combined antiemetic therapy where dexamethasone was usually combined with the serotonin subtype 3 antagonists, can be used for high-risk group such as obese individuals, earlier postoperative nausea and vomiting (PONV) episodes, motion sickness, and illnesses of the upper alimentary tract, especially gastric and duodenal ulcers, esophagitis, or hiatal hernia, menstruating women.