

# A Comparison Of IV Ondansetron Vs IV Ondansetron And IV Dexamethasone In Preventing Ponv In Patients Undergoing Laparoscopic Cholecystectomy.

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Date of Submission: 09-07-2026

Date of Acceptance: 19-07-2026

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## I. Objectives:

To compare IV Ondansetron vs IV Ondansetron and IV Dexamethasone in preventing post operative nausea and vomiting in patients undergoing laparoscopic cholecystectomy.

## II. Background:

**Postoperative Nausea and Vomiting (PONV)** is a frequent and unpleasant complication following surgery, with high incidence after procedures like **Laparoscopic Cholecystectomy**. PONV can lead to serious issues, including dehydration, aspiration, and delayed hospital discharge, making prophylactic management essential for better patient outcomes and reduced healthcare costs. The study aims to compare the effectiveness of **Ondansetron** alone (a 5-HT<sub>3</sub> receptor antagonist) versus a **combination of Ondansetron and Dexamethasone** (a corticosteroid) in preventing PONV in this high-risk surgical patient group.

## III. Methods:

Following ethical approval and informed consent, 40 patients undergoing laparoscopic cholecystectomy were **randomly divided** into two groups of 20: Group A **received 4mg IV Ondansetron** and Group B **received 4mg IV Ondansetron plus 8mg IV Dexamethasone** immediately after induction of general anesthesia. All patients **followed** NPO guidelines and **received** a standardized anesthesia regimen including Midazolam, Fentanyl, Propofol, and Vecuronium, with maintenance via a 50:50 air/oxygen mixture. Post-surgery, neuromuscular blockade **was reversed**, extubation done and patients **were monitored** for 24 hours in the recovery room. The primary outcome, **nausea and vomiting**, was assessed using a **VAS score (0-10)** - mild (0 to 3), moderate (4 to 6) and severe (7 to 10) at set intervals of 0, 2, 3, 6, 12, and 24 hours post-extubation.

## IV. Results:

In the two demographically comparable groups, **Group O** (IV Ondansetron alone) and **Group O+D** (IV Ondansetron and IV Dexamethasone), postoperative nausea and vomiting (PONV), measured by the Visual Analogue Scale (VAS), were significantly lower in Group O+D at **2 hours** ( $p=0.04$ ) (mean pain score of Group O  $1.20 \pm 2.57$  vs Group O+D  $0.15 \pm 0.37$ ), and **3 hours** ( $p=0.03$ ) (mean score in Group O was  $0.85 \pm 1.73$  vs Group O+D  $0.00 \pm 0.00$ ), indicating **superior analgesic efficacy** of the combination therapy during the early recovery period. While the incidence of vomiting was low overall, Group O+D reported **zero episodes** (100% of patients) compared to 10.0% of patients in Group O who experienced one or two episodes, though this difference was not statistically significant ( $p=0.35$ ).

## V. Discussion:

The results suggest that the addition of **IV Dexamethasone** to IV Ondansetron significantly enhances control over early postoperative pain following laparoscopic cholecystectomy, a key finding evidenced by the statistically lower VAS scores at 2 and 3 hours. This superior analgesic benefit, coupled with the trend toward a lower incidence of vomiting (100% emesis-free rate in the combination group), supports the use of this dual-therapy regimen. These findings underscore that the combination therapy offers a favorable profile for optimizing early postoperative comfort and recovery.

## VI. Conclusion:

The combination regimen has a statistically significant reduction in analgesia and completely prevented vomiting in all patients, suggesting an enhanced prophylactic benefit against PONV. This suggests adding IV Dexamethasone into routine antiemetic protocols for laparoscopic abdominal surgeries to achieve superior pain and emesis prevention.

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