Preventing Emesis After Laparoscopic Gynecological Surgery

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Prophylactic dexamethasone decreases the incidence of postoperative nausea and vomiting without causing observable adverse effects in patients after laparoscopic gynecological surgery, concludes a new meta-analytic review.1

After observing that same-day discharge for laparoscopic hysterectomy patients was often precluded because of postoperative nausea and vomiting, researchers Alice Pham, MD, and Grace Liu, MD, of Sunnybrook Health Sciences Center in Toronto conducted a systematic review and meta-analysis of randomized controlled trials that compared the benefits and harms of dexamethasone versus placebo in women undergoing laparoscopic gynecological surgery. In total, 13 randomized controlled trials involving 1695 patients met inclusion criteria and were included in the analysis. The researchers found that prophylactic dexamethasone significantly decreased the incidence of postoperative nausea (relative risk [RR], 0.56), postoperative vomiting (RR, 0.35), and the need for rescue antiemetics (RR, 0.39). Prophylactic dexamethasone also decreased the time to meet discharge criteria by an average of 28.5 minutes, a significant reduction. The estimated number needed to treat to prevent nausea in 1 patient was 8, and the number needed to treat to prevent vomiting in 1 patient was 5. Drs Pham and Liu consider these numbers to be low, translating to high individual benefit for the patients that prophylactic dexamethasone helps. Before this study, the researchers observed a gap in knowledge related to the use of dexamethasone for postoperative nausea and vomiting among their gynecology colleagues. In addition, their colleagues in anesthesiology were concerned about potential adverse effects, including delayed wound healing and an increase in blood glucose levels. The results of their analysis, however, showed no observable increases in adverse events. They also found that prophylactic dexamethasone use was associated with a better quality of recovery in all 5 domains measured by the Quality of Recovery 40 questionnaire, which are physical discomfort, emotional state, physical independence, psychological support, and pain. The researchers acknowledged that they were unable to determine whether dexamethasone reduced the severity of postoperative pain or had any opioid-sparing effect. Also, the optimal timing and dosages of dexamethasone remain unclear given the available data. However, another study found that to achieve the best antiemesis with the fewest adverse effects, a 2.5-mg dose of dexamethasone was the minimum effective dose with no discernable adverse effects when various doses of dexamethasone were compared with placebo in patients undergoing gynecological surgery.2

Pertinent Points:
- Prophylactic dexamethasone significantly decreases the incidence of postoperative nausea and vomiting after laparoscopic gynecological surgery.
- Although there are other antiemetics for treating postoperative nausea and vomiting, dexamethasone should be considered as single therapy or as part of combination therapy for decreasing PONV in patients undergoing gynecological surgery.


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