Postoperative Nausea Vomiting (PONV) : Influence of Bowel Manipulation During Intraabdominal Surgery

Sirivanasandha P, M.D.* Puangklang M,B. Sc.**
*Staff** Nurse Anesthetist, Department of Anesthesiology, Faculty of Medicine, Ramathibodi Hospitol, Bangkok 10400

High incidence of postoperative nausea and vomiting (PONV) in intraabdominal surgery were recognized. The mechanism of PONV was thought to be from 5 hydroxytryptamine 3 (5 HT3) released by enterochromaffin cells of gastrointestinal mucosa, triggers vagus nerve ending and sends impulse to stimulate vomiting center in medulla. According to this hypothesis, incidence and intensity of PONV should vary to the degree of bowel manipulation during surgery. Thus 5 HT3 receptor antagonist should be specific management for PONV in intraabdominal surgery. This drug is rather expensive for Thai patients, cost and benefit should be taken into serious consideration.

The effect of different degree of bowel manipulation during surgery on incidence and intensity of PONV were studied at random in 130 patients going for intraabdominal surgery under general anesthesia which was rather unique as a routine anesthetic technic in Ramathibodi Hospital. The degrees of bowel manipulation were allocated into 3 grades (minimum, moderate and maximum) and also intensity of PONV (mild, moderate and severe).

The other risk factors which probably increase incidence of PONV : age, sex, premedication, narcotic supplement, duration of surgery, and types of surgery (general surgery, laparoscopic, GYN) were in consideration. Those patients subsequently experienced PONV were managed by psychological approach and rescued by metoclopramide.

The incidence of PONV in this study was 29.29%, much lower than the studies in western countries (50-70%). The different degree of bowel manipulation did not change incidence and intensity of PONV significantly by chi-square test. The tendency to develop PONV was high (significant) in female patients. Routine management of PONV by psychological approach, and rescued using metoclopramide was successful for all effected cases.

In conclusion, this study does not confirm hypothesis of "bowel manipulation during intraabdominal surgery may release 5 HT3 to stimulate vomiting center via vagus nerve." Thus specific treatment of PONV in intraabdominal sugery by 5 HT3 receptor antagonist is probably not necessary.