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Intraperitoneal Sub-Diaphragmatic Instillation of Bupivacaine plus Morphine for Reducing Postoperative Shoulder Pain after Gynecologic Endoscopy

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Abstract

Background: Gynecologic endoscopic surgery is a minimally invasive surgical technique for treatment of various gynecologic diseases. When compared to conventional laparotomy, this procedure has advantages in many aspects such as reduced postoperative pain, short hospital stay, and decreased morbidity associated with laparotomy. However, 15 to 30% of the patients experienced moderate or severe postoperative shoulder pain. Methods to minimize postoperative shoulder pain after gynecologic endoscopy are essential to maximize the quality of life of the patients.

Objective: To evaluate the benefit of intraperitoneal instillation of bupivacaine plus morphine for reducing postoperative shoulder pain incidence after gynecologic endoscopy.

Material and Method: A randomized clinical trial was conducted in 158 patients undergoing laparoscopic procedures. The patients were randomly assigned to receive either 0.5% bupivacaine hydrochloride 20 mL mixed with morphine 3 mg (study group) or normal saline (control group) instillation to subdiaphragmatic area before finishing the procedure. Shoulder pain was evaluated at immediate post-operative time, and at 12 and 24 hours from the termination of surgery. The data of requested analgesic drugs after surgery was also recorded.

Results: Baseline characteristics were comparable between the two groups. Diagnosis, laparoscopic procedures, and duration of operation were also comparable. There were comparable proportions of patients reporting shoulder pain at 12 and 24 hours between the study and control group (30.4% and 30.4% at 12 hours, and 11.3% and 21.5% at 24 hours, respectively). Median pain scores at 12 and 24 hours were comparable between the study and control group (3 and 2 at 12 hours, and 4 and 4 at 24 hours, respectively). Requirement of analgesics was slightly greater among control than study group, but without statistical significance (17.7% and 24.1% respectively).

Conclusion: Intraperitoneal instillation of bupivacaine plus morphine had no efficiency for reducing postoperative shoulder pain incidence after gynecologic endoscopy.

Keywords: Gynecologic endoscopy, Bupivacaine hydrochloride, Morphine

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