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Comparison of intra-peritoneal instillation of bupivacaine and morphine hydrochloride versus bupivacaine and magnesium sulfate for post-operative pain relief after laparoscopic cholecystectomy-A randomized double-blind comparison study

The purpose of this study is to compare the analgesic effect of intra-peritoneal instillation of bupivacaine plus morphine hydrochloride versus bupivacaine plus magnesium sulfate in patients undergoing laparoscopic cholecystectomy under general anesthesia. Hundred patients were randomized to one of the following groups: (Mo group) (n=50) receiving intra-peritoneal instillation of 30 ml 0.25% bupivacaine and 3 mg morphine, (Mg group) (n=50) receiving intra-peritoneal instillation of 0.25% bupivacaine plus 50 mg/kg magnesium sulfate to a total volume of 30 ml. Postoperative pain was evaluated using visual analog scale (0-10). There are significant differences between Mo and Mg groups in the total VAS score (P value <0.05). In the Mo group, the mean of total VAS (2.09) was significantly lower than the mean of total VAS in the Mg group (2.71); which means that patients in the Mo group had significantly less intensity of pain than patients in the Mg group (p=0.006). There is a significant difference between n(%) of patients complaining of moderate to severe postoperative pain in Mo group 15/50 (30%) compared to Mg group 25/50 (50%) (p=0.0423). When estimating the size of the treatment effect of morphine hydrochloride plus bupivacaine, found that the relative risk reduction of moderate to severe pain postoperatively is 0.40. As a conclusion, intra-peritoneal instillation of combination of bupivacaine with morphine hydrochloride is superior to bupivacaine plus magnesium sulfate to reduce the intensity and incidence of postoperative pain in patients undergoing laparoscopic cholecystectomy surgery without significant increase of side effects. This peripheral effect of opioid provides a new approach to pain relief that can have major clinical benefits.

Biography

Aidah Alkaissi is currently a Dean of Nursing College at An-Najah National University, Palestine. She is also coordinator of the Master programs of Nurse Anesthetists and Critical Care Nursing. She graduated BSN, MSN, PhD in Anesthesiology from Linköping University, Sweden. She also has Bachelor of Law degree from Arabic University of Beirut, Lebanon. She has published more than 17 papers in reputed journals and has been serving as a Vice Chairman of IRB at An-Najah National University.