



**Service Priorities and Programmes  
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**Retrospective cross-sectional study on pain management in patients undergoing laparoscopic colectomy**

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**Introduction**

Laparoscopic colorectal surgery is believed to cause less postoperative pain than laparotomy. However, the acute pain may still be significant in those having laparoscopic left or right hemi-colectomy, where a supra-umbilical mini-laparotomy wound is required to take out the diseased colon.

**Objectives**

1. To determine whether intravenous patient-controlled analgesia (PCA) with morphine is more effective than conventional analgesics in treating postoperative pain in patients undergoing laparoscopic left or right hemi-colectomy 2. To assess whether opioid used in PCA will adversely affect other outcomes

**Methodology**

This is a retrospective study in which all data are collected by review of old medical records in the United Christian Hospital between January 2012 and October 2013. Whether the patient received PCA or not was determined by the responsible anaesthetist. Demographic data for each patient was recorded. The pain intensity was recorded according to a 0-10 Numerical Rating Scale (NRS) as part of the hospital-wide Pain Assessment Tools, whether the patient received PCA or not. Day 0 to Day 2 pain scores were noted and a mean score for each day was calculated. Return of bowel motility was represented by number of days for passing of flatus, or actual bowel opening. Number of days taken for tolerance of water and solid diet were recorded. Lastly, number of days taken for ambulation out of bed was noted. Outcome for each group was compared using Student's t-test.

**Result**

Patient demographics were similar for both groups regarding age, gender and physical well-being represented by the American Society of Anesthesiologists (ASA) status. There were no statistically significant differences detected in Day 0 to Day 2 pain scores ( $p = 0.52, 0.51$  and  $0.73$  respectively.), though pain level at Day 0 and

Day 2 tend to be lower on the PCA group. There were also no statistically significant difference detected between the 2 groups on number of days taken for return of bowel motion, tolerance to water and solid food intake, and ambulation out of bed.

Conclusions: 1. A prospective study with a standardized schedule of charting the pain scores as in patients on PCA) will probably perform better to detect statistically significant differences. 2. The study did not detect any adverse effects of morphine PCA on bowel motility, tolerance to oral intake, and ability to ambulate. It should continue to have a significant role in pain management for laparoscopic colorectal surgery, where fast-tracking is a major theme.