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A PROSPECTIVE, RANDOMIZED TRIAL OF THREE PERIOPERATIVE ANESTHETIC TECHNIQUES IN PATIENTS UNDERGOING BOWEL RESECTION

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The principal factors preventing earlier discharge after bowel resection are ileus, pain, and postoperative nausea and vomiting. Opioids affect all of these; however, would the absence of opioids alone improve postoperative patient condition and allow for a more rapid recovery?

The purpose of this study is to determine whether there are differences in return of bowel function and hospital stay in patients who undergo lower abdominal bowel surgery when using epidural local anesthetic regimens, with and without opioids.

ASA Class I-III patients aged 18-80 years of age scheduled to undergo lower abdominal colon resection were studied. All patients received 2mg midazolam and 30mg ketorolac IV preoperatively. All patients received propofol for induction (1.5-2.5mg/kg) and maintenance of anesthesia titrated to a BIS of 40-60 and a rocuronium infusion to maintain 1 twitch in a train-of-four.

Patients in Group 1 received no opioids during the intraoperative and postoperative period until return of bowel function and their analgesia was provided by 5ml 0.75% aliquots of ropivacaine intraoperatively. A continuous epidural infusion of 0.2% ropivacaine postoperatively was started at 6ml/h and titrated to patient response. Patients in Group 2 received the same epidural management intraoperatively but also received 1mcg/kg fentanyl with each ropivacaine aliquot. During the final 20 minutes of operation, patients were given 0.1mg/kg morphine intravenously. Postoperative pain was managed by ropivacaine 0.2% at 6ml/h and breakthrough pain was treated with an intravenous PCA infusion of morphine set to deliver no basal, 1mg demand with a 6-minute lockout. Patients in Group 3 did not receive an epidural but received fentanyl 3mcg/kg at induction and 1mcg/kg for breakthrough pain intraoperatively. Postoperative pain was treated with an intravenous PCA infusion of morphine set to deliver no basal, 1mg demand with a 6-minute lockout. All patients postoperatively received ketorolac 15mg IV q6h RTC until tolerating clear liquids for 4 hours, and then rofecoxib 50mg PO qAM was begun. Patients were evaluated every 6 hours and examined for bowel sounds, passage of flatus, PO tolerance, time to first passage of stool and discharge. Categorical data were compared with Pearson's chi-squared test. Continuous data were compared with an analysis of variance and Tukey's post hoc test.

There were no intergroup differences in age, gender distribution, or postoperative pain intensity.

Outcome data are summarized in the table (Data are presented as mean±SD; *P < .05 vs. Opioid Anesthesia).

Our preliminary results demonstrate that excluding opioids from the perioperative analgesic regimen in patients undergoing lower abdominal colonic surgery allows for a faster return of bowel function with comparable pain relief. Factors other than return of bowel function delay patients hospital discharge.

Time to Event (Days)	Epidural Anesthesia		Opioid Anesthesia (n = 8)
	wo/Opioids (n = 9)	w/Opioids (n = 8)	
Bowel sounds	1.0±0.5	0.9±0.4	1.0±1.1
Flatus	1.3±0.7*	2.1±0.6	4.2±2.1
Bowel movement	2.6±1.4*	3.8±0.9	5.6±1.7
Ingestion of clear liquids	2.7±1.0*	2.5±1.5	5.2±2.5
Hospital discharge	6.1±2.7	6.0±1.2	7.7±2.4