



Fast-track management is safe and effective after bowel resection in children with Crohn's disease

Jesse D. Vrecenak, Peter Mattei *

The Children's Hospital of Philadelphia, Philadelphia, PA

ARTICLE INFO

Article history:

Received 18 September 2013

Accepted 30 September 2013

Key words:

Crohn's disease

Fast track

Laparoscopic

Postoperative management

ABSTRACT

Background: “Fast-track” management (FT) challenges traditional postoperative tenets in order to minimize discomfort and optimize inpatient care. We examined the outcomes of consecutively performed laparoscopic-assisted ileocecectomy for Crohn's disease (CD), with particular focus on FT's effects in patients with underlying bowel inflammation.

Methods: We retrospectively reviewed all patients undergoing isolated laparoscopic-assisted ileocecectomy for CD at our institution between 12/2000 and 12/2010, excluding patients with multiple areas of surgical CD, bladder involvement, or age > 18 years.

Results: Seventy-one patients aged 8–18 years underwent isolated laparoscopic-assisted ileocecectomy for CD, of which 45 met FT criteria. Individual practice patterns primarily determined which patients were FT-managed. FT management led to decreased length of stay (LOS), time to first stool, time to full diet, and intravenous narcotic use. No significant difference in complications or disease progression was observed between the two groups during 2-year follow up.

Conclusions: Our results suggest that FT is safe and effective in patients with CD. In a chronically ill population, counseling patients and families to expect early discharge is critical to the success of this strategy. Despite CD-related GI pathology, FT patients realized benefits in terms of LOS, time to bowel function, and narcotic use without any increase in complications.

© 2014 Elsevier Inc. All rights reserved.

Fast-track management refers to a comprehensive philosophy of aggressive peri- and postoperative care that challenges traditional postoperative tenets in order to minimize discomfort and optimize inpatient care. First described by Henrik Kehlet [1–5], fast-track management streamlines therapy by emphasizing early feeding, eliminating drains, tubes and catheters, minimizing narcotic use and utilizing minimally invasive techniques whenever possible. This strategy is well established in adult surgery [6–9] and recent trials have established its efficacy in pediatric patients [10,11], reducing length of hospital stay and narcotic usage while preserving good pain control. Fast-track management has been evaluated in several specific pediatric surgical procedures, including GI procedures such as appendectomy [12], fundoplication [11], and colectomy [13].

However, such studies routinely exclude children with concomitant disease, who might also benefit from fast-track principles. Though children with co-morbid conditions may present unique perioperative risks, pediatric patients with chronic illness are at higher risk for social isolation and school absence [14,15] making them particularly likely to benefit from the shorter hospitalization associated with fast-track

management. Some of these patients have pain control issues, and care providers might be inclined to proceed cautiously with diet advancement or early mobilization owing to their underlying disease. Because fast track management relies heavily on early postoperative feeding and minimization of narcotics, patients with abnormalities in gastrointestinal physiology might be at increased risk for complications. We have applied fast-track strategies in pediatric patients with Crohn's disease who have undergone bowel resection and primary anastomosis. In this retrospective study, we examine the outcomes of consecutively performed laparoscopic-assisted ileocecectomy for Crohn's disease, with particular focus on the effect of a fast-track approach in patients with underlying bowel inflammation.

1. Patients and methods

We retrospectively reviewed all patients undergoing isolated laparoscopic ileocecectomy for Crohn's disease at our institution between December, 2000 and December, 2010. Cases were identified based upon CPT codes for laparoscopic ileocecectomy (44160 and 44205) and cross-referenced for ICD-9 diagnosis codes associated with Crohn's disease (555.1, 555.9). Procedures were performed by five surgeons and individual practice patterns primarily determined which patients were managed in accordance with fast-track principles. Critical components of our fast-track protocol include: oral

* Corresponding author. The Children's Hospital of Philadelphia General, Thoracic, and Fetal Surgery 34th Street and Civic Center Boulevard Philadelphia PA 19104. Tel.: +1 215 590 4981; fax: +1 215 386 4036.

E-mail address: mattei@email.chop.edu (P. Mattei).

intake within 24 hours postoperatively, no routine nasogastric tube, rectal suppository on post operative day 2 if no spontaneous stool, and minimization of narcotics using alternative pain medications, including non-steroidal anti-inflammatory drugs (NSAIDs). All patients and families were counseled preoperatively on the planned strategy and the criteria for early hospital discharge, including specific milestones, were discussed.

All patients who underwent laparoscopic ileocecectomy for Crohn's disease during the study period were considered for inclusion. Exclusion criteria included patients with multiple areas of surgical Crohn's disease, bladder involvement and age >18 years. Of patients aged 18 years or less, ten patients were excluded based upon these criteria. Intravenous narcotic use was calculated in mg morphine/kg using equi-analgesic dose equivalents, and ketorolac was routinely used to decrease narcotic requirements. Drains, tubes and catheters were not used empirically in any patient in the fast-track group.

Data were collected regarding presenting symptoms, surgical indications, preoperative immunosuppression, postoperative pain control and NSAID use, chronicity of symptoms, urgency of operation, operative/anesthetic time, as well as time to oral intake, return of bowel function, and postoperative disease-related complications, including flares. Follow-up data were collected through two years postoperatively. Data were analyzed using a 2-tailed student's T test with unequal variance. Following normality analysis, non-parametric data were analyzed using the Mann Whitney U test for continuous variables and the Fisher's Exact test for categorical variables. Statistical significance was set at $p < 0.05$.

2. Results

Seventy-one patients ranging in age from 8 to 18 years underwent isolated laparoscopic ileocecectomy for Crohn's disease and met inclusion criteria, of which 45 met fast-track criteria and 26 were conventionally managed. Mean age in the fast-track (FT) group was 14.6 years (range 8–18) vs. 15.3 years (range 10–18) in the conventionally managed group. There was a slight male predomi-

nance in the FT group (27 male vs. 18 female), while conventionally managed patients were evenly divided (13 male vs. 13 female). There was no significant difference in the number of preoperative Crohn's medications (median = 3; range 1–4 in both groups) or duration of treatment. However, 26 of 45 FT patients (57%) were treated with preoperative corticosteroids, while 21 of 26 conventionally managed patients (81%) received this therapy ($p = 0.04$). Likewise, 5 of 45 FT patients (11%) required monoclonal antibody therapy (Infliximab or Adalimumab) while 6 of 26 non-FT patients (23%) received such treatment, though this difference did not reach statistical significance ($p = 0.22$) (Fig. 1).

The median interval between disease presentation and surgical resection was 1.5 years in both FT and conventionally managed groups (mean 2.28 vs. 2.19 years, range 0–7 years). Though FT patients had shorter OR times, on average (126 vs. 174 min, $p < 0.01$), fluid administration was comparable when adjusted for time (0.71 vs. 0.8 L/h, $p = 0.28$). All procedures were performed using a laparoscopic technique, and nearly all anastomoses were stapled. Hand-sewn intracorporeal anastomoses were performed for two patients in the conventionally managed group. Primary anastomoses were performed in all patients.

Though 13 of 45 FT patients experienced postoperative emesis, only one required NG tube replacement. Length of stay for FT patients averaged 3.7 days vs. 5.0 days for the non-FT cohort ($p < 0.01$). Likewise, time to first stool averaged 2.2 vs. 3.3 days ($p < 0.01$), time to full diet 2.1 vs. 3.7 days ($p < 0.01$) and intravenous narcotic use averaged 1.4 vs. 2.9 mg/kg ($p = 0.03$) (Fig. 2). Among FT patients, there was a significant difference in length of stay between those patients receiving oral nutrition immediately postoperatively (day 0) and those who did so on post-operative day 1 (3.05 vs. 4.24, $p < 0.01$), without any difference in postoperative emesis or complications.

Two patients in each group required bowel function-related readmission. Twenty-three patients experienced complications (Table 1); no significant difference in complications (15 of 45 fast-tracked patients vs. 8 of 26 conventionally managed patients, $p = 1$) or disease progression (8 of 45 vs. 4 of 26) was observed between

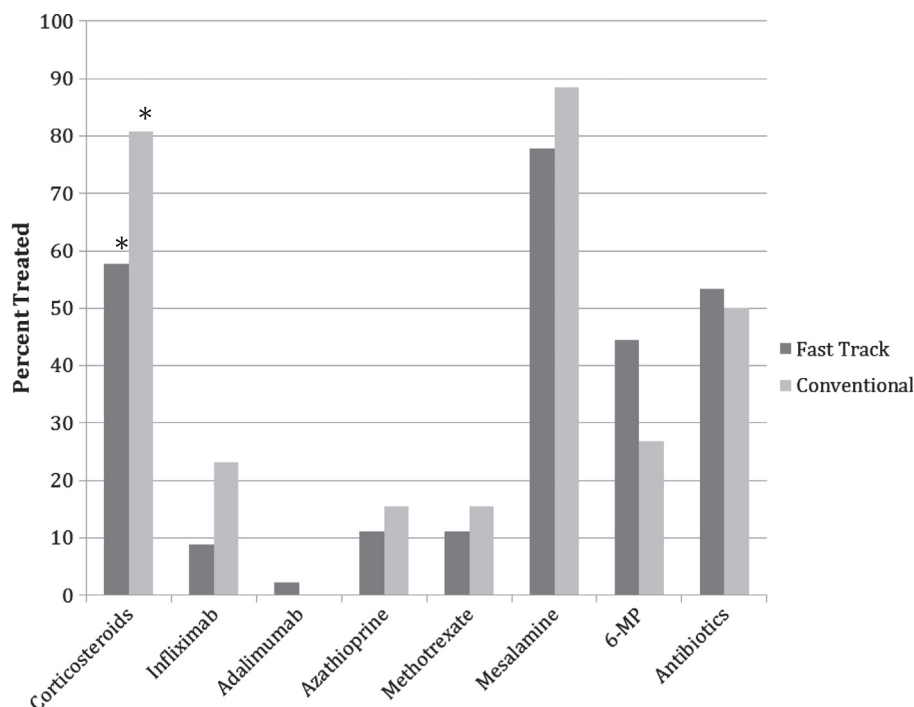


Fig. 1. Preoperative Crohn's medications in active use at the time of surgery. Overall medication use was comparable between groups, though conventional patients were more likely to have been treated with corticosteroids ($p = 0.04$). No other significant differences were observed.

Download English Version:

<https://daneshyari.com/en/article/4156066>

Download Persian Version:

<https://daneshyari.com/article/4156066>

[Daneshyari.com](https://daneshyari.com)