Journal Club: Current management of colon trauma

Joshua Tierney
21 Ehud ... took the sword ... and thrust it into his belly.  
22 The handle also went in after the blade, and the fat closed over the blade, for he did not draw the sword out of his belly; and the refuse came out.

Sir William Oglivie reports promising results with diverting colostomy, mortality drops to 30%

1st report that primary repair of nondestructive injuries is safe

Resection and anastamosis? Colon injury and DCL?
OBJECTIVES:

1. When is it safe for primary repair?
2. When is it safe for resection + anastomosis vs. colostomy?
3. What to do with a colon injury in the setting of damage control laparotomy?
When is it safe for primary repair?

Management of Perforating Colon Trauma

Randomization Between Primary Closure and Exteriorization

H. Harlan Stone, M.D., Timothy C. Fabian, M.D.

Ann Surg 190:430-6, 1979

Group 1: Obligatory Colostomy (129)
1. Preoperative Hypotension
2. Intraperitoneal EBL >1L
3. >2 organs injured
4. Gross fecal contamination
5. >8 hours post-injury
6. Destructive colon lesion
7. Major abd wall loss

Group 2: Randomized Colostomy (72)
- 57% surgical incision infection
- 29% intraperitoneal infection
- Average LOS: 22 days
- Higher morbidity and cost vs. closure

Group 3: Randomized Closure (67)
- 48% surgical incision infection
- 15% intraperitoneal infection
- Average LOS: 16 days
Resection + anastomosis vs. colostomy?

Is Resection With Primary Anastomosis Following Destructive Colon Wounds Always Safe?

Ronald M. Stewart, MD, Timothy C. Fabian, MD, Martin A. Croce, MD, F. Elizabeth Pritchard, MD, Gayle Minard, MD, Kenneth A. Kudsk, MD, Memphis, Tennessee

60 patients with destructive colon trauma

17 colostomy

43 resection/anastomosis

or right-sided anastomoses.

There are several potential problems in this present study. It suffers from all the limitations of a retrospective review. We anticipated that there would be no difference in complications between patients treated with colostomy as compared with those treated with primary anastomosis; however, there was a trend towards increased septic complications in the primary anastomosis group, which is explained on the basis of septic complications due to anastomotic leaks. In our opinion, the 14% anastomotic leak rate is excessively high; however, there were obvious differences between the patients who developed anastomotic

Full-thickness Colon Injuries

Nondestructive
- Primary Repair

Destructive
- +Comorbidity
  - >6 units PRBCs
  - -Comorbidity
  - ≤6 units PRBCs

- Diversion
- Resection + Anastomosis
Resection + anastomosis vs. colostomy?

Adherence to a Simplified Management Algorithm Reduces Morbidity and Mortality after Penetrating Colon Injuries: A 15-Year Experience

John P Sharpe, MD, Louis J Magnotti, MD, FACS, Jordan A Weinberg, MD, FACS, Nancy A Parks, MD, George O Maish, MD, FACS, Charles P Shahan, MS, Timothy C Fabian, MD, FACS, Martin A Croce, MD, FACS


- Retrospective comparison between two patient cohorts with penetrating colon trauma after implementation of the authors’ “simplified management algorithm”
Abscess formation
~37% → 14%

Suture-line failure
~15% → 5%

Mortality
~12% → 1%
Colon injury and damage control laparotomy?

Colon Anastomosis After Damage Control Laparotomy: Recommendations From 174 Trauma Colectomies

Mickey M. Ott, MD, Patrick R. Norris, PhD, Jose J. Diaz, MD, Bryan R. Collier, DO, Judith M. Jenkins, MSN, Oliver L. Gunter, MD and John A. Morris, Jr., MD

- Immediate abdominal closure (95)
  - Colostomy
  - Anastomosis: Leaks 6%

- Damage control laparotomy (79)
  - Colostomy
  - Anastomosis: Leaks 27%

***Left-sided injuries and high transfusion requirements are risk factors for anastomotic leak in the DCL patient

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