Surgery for Ulcerative Colitis

Anjali Kumar, MD, MPH, FACS, FASCRS
Ravi Moonka, MD, FACS, Rick Thirlby, MD, FACS
Colorectal Surgery Program, Virginia Mason
Our Team

Colorectal Surgery:

Gastroenterologists:
Inflammatory Bowel Disease (monthly case conference)
Advanced Endoscopists
Motility Specialists
Enterostomal Therapists

Radiologists:
(monthly case conference)
Interventionalists

Community:
CCFA
City-wide IBD journal club
Seattle Colorectal Surgery journal club

GI Oncologists
Tumor Board (twice-monthly)

GI Pathologists
Research
Benaroya (BRI)
Surgery for UC:

General indications
Various options for surgery
Laparoscopy
Functional expectations
Surgery can be emergent or elective

Emergent/Urgent
– Fulminant colitis
– Hemorrhage

Elective
– Refractory to medications
– Intolerance to medications
– Dysplasia
Surgery for UC

• Procedure depends upon multiple factors:
  – Emergency versus elective
  – Prior surgeries, condition of patient
  – Patient desires
Urgent Surgery for Acute Colitis

Toxic megacolon
Perforation
Severe hemorrhage
Clinical deterioration during medical therapy
Refractory colitis
Ileostomy

Temporary vs. permanent

The original operation

– Attaches terminal ileum to skin and allows patient to wear bag to collect stool

– Safe

– Continual drainage

– Acceptable quality of life
“An ileostomy must work perfectly if the surgical treatment of ulcerative colitis is not to fall into disrepute…”

First line of landmark article
“The management of an ileostomy including its complications.” Brooke.

Lancet, 1952.
Stoma Creation
Ileal Pouch Anal Anastomosis

J Pouch / The Pouch / Pelvic pouch
Pull-through
Pelvic bag
Internal bag
IPAA
Neo-rectum
Small bowel bag
Restorative proctocolectomy
A “neo-rectum” is fashioned from small intestine
This “ileal pouch” is attached to the anus
“Normal” evacuation
Reasonably well-accepted
by patients
**Meta-analysis**

- **4183 patients**

  - **2699 handsewn IPAA, 1484 stapled IPAA**

**FIGURE 1.** Meta-analysis illustrating seepage of stool during the day and at night.

*Lovegrove, et al., Ann Surg, 2006*
Stapled Versus Hand-Sewn

Single-center evaluation
  – 3109 pts over 24 years
  – 474 handsewn

Handsewn with more stricture, sepsis, pouch failure

Function?
  – Handsewn with more incontinence, seepage, pad usage and dietary, social, or work restrictions.
  – Similar frequency and urgency

192 patients IPAA without stoma
- 12% leak (5% required diversion)
  • Unrelated to steroid use
- Good functional

102 patients IPAA
- Stoma based upon pt condition
- Similar results and functional outcome

2002 patients

- 1725 stoma and 277 no stoma
  - No difference in septic complications
  - 4% of no stoma patients diverted
  - Equal functional outcomes

- Criteria for one-stage
  - Tension-free, stapled anastomosis
  - No air leak
  - Good nutrition (alb >3.5)
  - Not anemic (Hgb >13.5)
  - No prolonged steroids
    - (prolonged defined as =20mg pred >3months)
1504 loop ileostomies after J-pouch (19 years)
  – Median hosp stay 3 days
  – Complication rate 11.4%
    • 6.4% SBO
    • 1.5% wound infection
    • 1% Abdominal septic complications
    • 0.6% EC fistula

Wong, et al., *DCR*, 2005
Patients undergoing IPAA for ulcerative colitis have a lower rate of pregnancy than the general population

Carmichael, et al., *Seminars CRS*, 2011

New data suggest that laparoscopy improves the pregnancy rate over open surgery (56% v 30%)

Proctocolectomy and IPAA

Functional outcome

Total 24 hours BM: \(6\, (1-20)\)

Nocturnal seepage: \(29\%\)

Antidiarrheal usage: \(45\%\)

Fazio 1995 Ann. Surg

Total 24 hours BM: \(5\, (1-15)\)

Nocturnal seepage: \(44\%\)

Antidiarrheal usage: \(39\%\)

Meagher 1998 Br J Surg
1885 patients
  – Mean f/u 11 years
  – Pouch success
    • 5 years 96%
    • 20 years 92%
  – Fecal incontinence
    • Day -- 5% (5yrs) v 11% (20yrs)
    • Night -- 12% (5yrs) v 21% (20yrs)
  – No decrease in QOL with time
  – 92% in same job

Proctocolectomy and IPAA

Quality of Life
SF 36: Comparable to general population
HRQOL: Comparable to patients in remission with mild disease
HRQOL: Comparable to general population

No difference in “level of satisfaction” (IPAA vs. ileostomy)

Jimmo, et al., DCR, 1998

- Fewer restriction (sexual/sport)
  - IPAA > Kock pouch > ileostomy
- Level of satisfaction equal

Kohler, et al., Gastroenterology, 1991

- It is the cure of the disease rather than the restoration of transanal defecation

Inflammation of the mucosa of the new pouch
Very common (30-50%)
Unclear etiology
  – Bacteria
  – Genetics
  – Ischemia
Pouchitis

Presentation
  – Multiple BM per day
  – Occasional blood
  – Discomfort, malaise

Often treated with metronidazole or ciprofloxacin

Recurrence up to 66%
114 patients IPAA

- 3 year f/u
- 59% pouchitis (4.2 episodes)
- Multivariate
  - Female (74% v 47%)
  - Length of f/u (94% at >6yrs)
- Flagyl (54%) and Cipro (37%)

Liberal definition of pouchitis

Laparoscopic Surgery for Acute Colitis
Summary of Laparoscopic Total Colectomy

Benefits:

– Lower morbidity
– Short hospital stay
– Quicker return of bowel function

Drawbacks:

– 3-staged procedure (TAC, completion proctectomy & pouch, loop ileost TD)
– Longer operation(s)
– Not often utilized with perforation or toxic colitis
88 pts admitted with acute colitis
All patients underwent lap subtotal colectomy
Case-matched to open
   – Excluded toxic megacolon, perforation and peritonitis
Conversions to open in 5%
Operative morbidity lap vs. open: 35% v 56%
Hospital stay lap vs. open: 9 vs. 12

Marceau, Surgery. 2007
90 patients over 5 years with urgent/emergent resection for UC
   – 29 lap vs. 61 open
Less blood loss and longer OR time
0% vs. 21.4% wound complications

Telem, Surg Endosc. 2010
50 patients underwent lap subtotal colectomy
96% had severe/fulminant colitis
Conversion to open: 6%
Average length of stay: 4 days
Complication rate: 14%

Holubar, *Dis Colon Rectum* 2009
42 patients went on to have laparoscopic IPAA
Conversion to open: 2.3%
Average LOS: 4 days
Complication Rate: 13%

Holubar, *Dis Colon Rectum* 2009
Retrospective lap vs. open 3-stage
  – 37 lap vs. 41 open
Lap patients less narcotics, shorter ileus, shorter LOS
For laparoscopic 1st stage:
  – 2nd stage → 49 days sooner
Overall → 66 days sooner with lap

Chung, *Dis Colon Rectum* 2009
33 lap RP matched with 33 open RP
   – Mean BMI 22 (o) and 21 (l)
Morbidity 6% lap vs. 12% open (ns)
Equal function at 1 year

Larson, *Dis Colon Rectum*. 2005

Robotic-assisted RP equivalent to lap

Two scenarios:

1. No colitis, but dysplasia
   - Can consider sparing the rectum

2. Active pan-colitis
   - Can remove all of colon, rectum but as staged procedure.
Laparoscopic hand-assisted total abdominal colectomy
Laparoscopic hand-assisted total abdominal colectomy
Laparoscopic hand-assisted total abdominal colectomy
Ileorectal anastomosis
Ileorectal anastomosis
Ulcerative colitis with dysplasia
Ulcerative colitis with dysplasia
Laparoscopic total abdominal colectomy
Single-Incision Restorative Proctocolectomy

Geisler, Colorectal Dis. 2009
Proctocolectomy specimen
Conclusions

Surgery for UC:
Ileostomy can be a great option

Most patients prefer IPAA—need to discuss expectations

Laparoscopy is definitely an option for patients with UC or Crohn’s
Thank you!

askumar.md@gmail.com

Twitter: @anjaliskumar_md