Anastamotic Dehiscence
Leakage from the small or large bowel anastamosis

Increases morbidity and mortality

Risk of leakage is higher in anastomosis below the peritoneal reflection
- Anastomosis within 6 cm from the anal verge is higher
  - Some advocate faecal diversion

Clinically insignificant leaks identified radiologically with water soluble contrast enemas
- 3-4 times higher than clinically apparent leaks
1223 patients underwent an intestinal resection and anastomosis without fecal diversion during the study period.

- Thirty-three patients (2.7%) developed an anastomotic leak
- Mortality rate for an anastomotic leak in the literature typically is in the 10% to 15% range

There is a group of patients who has a more subtle clinical course

- low-grade fever, prolonged ileus, or failure to thrive
- Sent home with the mentality of “He’ll do better at home.”
Risk Factors

- Technical factors:
  - Ischemia or edema at bowel ends
  - Tension of the anastamosis
  - Inadequate closure
  - Generalized or localized sepsis near the anastamosis

- Patient factors:
  - Anemia
  - Malnutrition
  - High dose steroids or immunosuppressant agents
  - Medical illness
  - Irradiated bowel
  - Active Inflammatory Bowel Disease at anastamosis
  - Distal Obstruction
Leak rate was 8.7% (32/367)
- 13.3% for emergency vs 5.5% for elective procedures

Fistula was observed in 7/124 (5.6%)
- ileocolic, 13/171 (7.6%)
- colo-colic and 12/72 (16.6%)

Twenty-one patients with anastomotic dehiscence were treated conservatively
- 3 underwent reoperation

11, with severe dehiscence, in all cases in the left colon, underwent an emergency Hartmann's procedure
- perioperative mortality rate of 35.7%.

Site of colonic anastomosis represents the risk factor most strictly related to the anastomotic leak rate.
200 selected consecutive patients underwent resective colorectal surgery between 1990 to 1997
- 115 males and 85 females
- Medium age 50.6 years
  - range 16-87
- 6% anastomotic leakages

Risk Factors
- Chronic obstructive pulmonary disease
- Perioperative transfusion
- Level of serum albumin
- Corticosteroid
- Sepsis
- Bowel obstruction
- Anastomotic level and tension
- Poor blood supply
1018 colorectal resections and 811 anastomoses were performed over 40-month period.

Increased risk for anastomotic dehiscence:
- ASA score $\geq 3$ ($p = 0.004$)
- Prolonged (>3 h) operative time
- Rectal location of the disease
Clinical Presentation

- Depends on the site and the size of the leak
- Fever, tachycardia, oliguria, and prolonged ileus
- Abdominal pain and tenderness or guarding is variable
- Respiratory infection
  - Leak that has been walled off by adjacent organs and omentum to form an abscess located under the diaphragm
- Diarrhea
  - If abscess was formed in the pelvis
- Discharge through the incision or an enterocutaneous fistula
- Significant leak will cause fecal peritonitis and circulatory failure
  - Lead to multiorgan failure
Respiratory and neurological events occurred in patients with an anastomotic leak (p<0.001).
- These events occurred early in the postoperative course
- were usually the first signs and symptoms of a leak

More patients with a leak had absence of bowel activity by postoperative day 6 compared to patients without a leak (p<0.0001).

Elevations of the white blood cell count or temperature were a late finding.
Presentation

- Can be detected by physical exam if the anastamoses lies within the reach of the examiners finger and the defect is large

- Leukocytosis and blood cultures with intestinal organisms are suggestive

- Diagnosis relies on CT with IV and PO/Rectal contrast showing extravasation
  - Avoid barium
    - High morbidity with barium peritonitis
Asymptomatic Leaks

- Usually incidentally found
  - Peri-anastamotic air fluid filled collection on CT
- Leak is of no clinical consequence and will heal spontaneously
Symptomatic Leak

- Conservatively treated with:
  - Broad spectrum IV antibiotics
  - Bowel rest
  - Maintaining nutrition by TPN or elemental diet
  - Drainage of pelvic abscess

- If conservative management fails or patient has peritonitis
  - Resuscitation
  - Re-exploration
    - Do not attempt to repair the tissue
      - Too friable in the presence of intraabdominal sepsis and is certain to fail
    - Proximal diversion
      - Preserves the anastamosis
      - Preferred:
        - low extra-peritoneal anastamosis
        - Small leaks
    - Excision of the anastamosis and ostomy
      - Large leaks
      - Patient had resumed oral intake
        - The leak will remain a source of persistent sepsis
There are many patient factors and technical factors that may predispose to anastamotic dehiscence

- Patient’s medical conditions should be optimized prior to an elective procedure
Questions
Bibliography


