Anastomotic breakdown: Management

Anastomotic leak = Significant risk of mortality or major morbidity

Prevention

- Yes
    - Do not do an anastomosis
- What causes anastomotic failure?
    - The surgeon
- How does the surgeon cause anastomotic failure
    - Error of technique
    - Error of judgement

Errors

- The only anastomoses that leak are those done by a surgeon
- Patients suffer the consequences
- Technique
  - Should never happen
- Judgement
  - Striking the balance

Contributors to leaks

- Tension
- Poor blood supply
- Sepsis
- Contamination
- Anastomotic technique
- Hypotension
- Too much fluid
- Blood loss
- Transfusions
- Obesity
- Drugs
  - Steroids
  - NSAIDS
- Immunosuppression
- Systemic disease
  - Diabetes
  - Vascular disease
  - Tumours
  - Dementia
  - Liver and renal disease
- Emergency surgery
- Etc

- Happiness is:
- Mid rectal tumour
- Nice long sigmoid colon
- Or is it?
- Where has that sigmoid been during the pre-operative radiotherapy?

Role of a stoma

- Does not alter the leak rate
- Changes a life threatening complication into one that is far easier to manage
- Stomas complications are common
  - Before closure
  - From the closure event

Selection for defunctioning stoma

- Leak rate rises:
  - The closer anastomosis is to the anus
  - The greater the co-morbidity
  - In the presence of sepsis

- Can you predict who is likely to leak?

Surgeons ability to predict leaks

	High anastomosis	Low anastomosis
Sensitivity	38%	62%
Specificity	46%	52%

Policy at UCT Colorectal unit

- Diverting ileostomy for all coloanal and ileoanal anastomoses
- Selective diversion for anastomoses higher up the GI tract
- No anastomosis in sick patients
  - Concern about patient able to withstand a leak
  - Generalised sepsis
  - On inotropes

Danish Colorectal Cancer Group

- n=9333 Leaks =593
- 74 patients had of salvage anastomosis
- 13 died = 17.6%
- Covering ileostomy
  - 7/54 died = 13%
  - No covering ileostomy 6/20 died = 30%

- 20/507 = 3.9% of which 6 died

Krarup et al Vol. 218, No. 5, May 2014 Journ Am Coll Surg

Danish anastomotic leak data

- 2.7% of patients in this Danish database were successfully managed with anastomotic salvage without an ileostomy!!!
- 30% Mortality!!!!
- Consent???

The American Journal of Surgery (2016) 211, 1005-1013

The American Journal of Surgery®

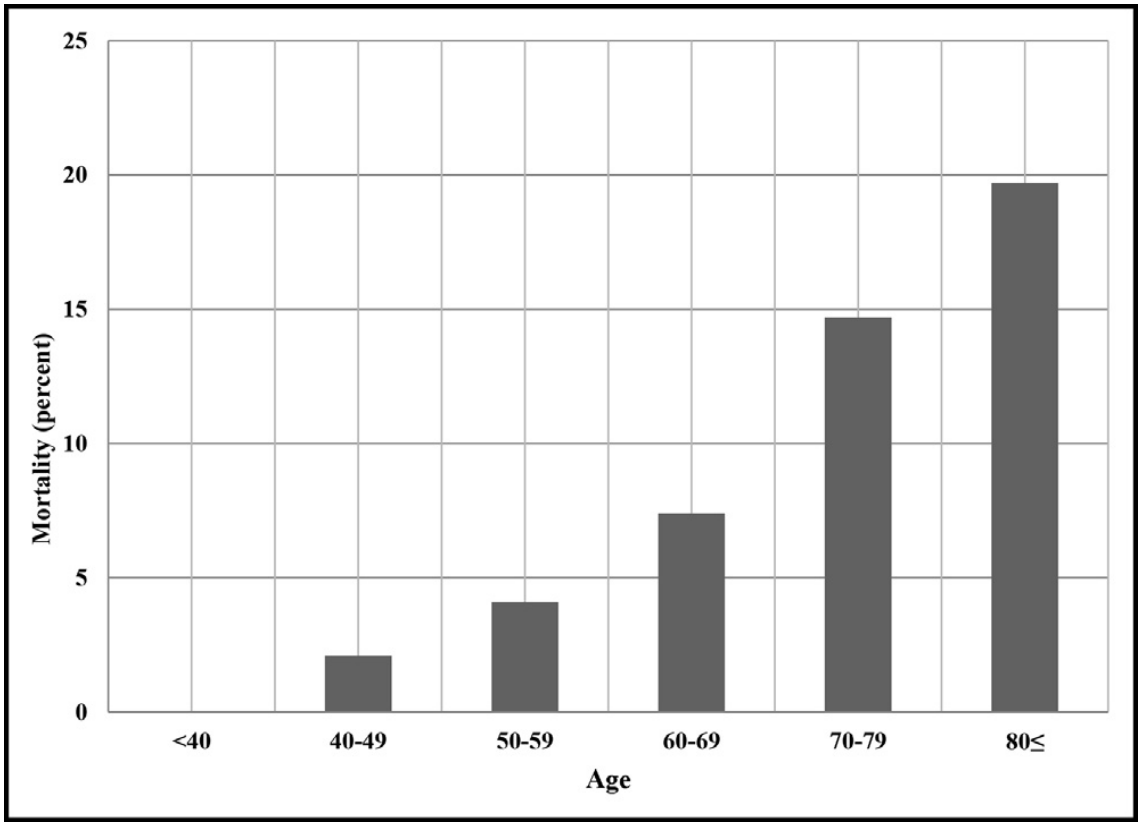
Clinical Science

Contemporary management of anastomotic leak after colon surgery: assessing the need for reoperation

Zhobin Moghadamyeghaneh, M.D., Mark H. Hanna, M.D., Reza Fazl Alizadeh, M.D., Joseph C. Carmichael, M.D., Steven Mills, M.D., Alessio Pigazzi, M.D., Michael J. Stamos, M.D.*

32 280 colon resections 3.8% leak rate
43.9 % did not require laparotomy

Mortality by age



Z. Moghadamyeghaneh et al.
The American Journal of Surgery, Vol 211, No 6, June 2016

Mortality by BMI

Z. Moghadamyeghaneh et al.
The American Journal of Surgery, Vol 211, No 6, June 2016

The 10 Rules for managing leaks

1. If you think it's a leak it's a leak
2. If the CRP is high worry
    1. If the CRP is low don't stop worrying
3. A CT scan before day 5 shows
    1. Free air
    2. Free Fluid
4. If you think it's a leak before Day 5 do a laparotomy
    1. Occasionally a contrast enema

The Rules

5. The decision to perform a laparotomy is a clinical one.
6. Laparotomy = Stoma
7. A pelvic anastomosis is less dangerous than an abdominal anastomosis

The Rules

8. A leak ≠ laparotomy
    1. Stool in drain ≠ laparotomy
    2. Contrast extravasation ≠ laparotomy

9. Open drainage = Stoma

10. No Laparotomy after day 10

Conclusion

- We cannot prevent leaks
- We can reduce the chance of a leak
- We can mitigate the effect of a leak
- Be aware that leaks are caused by surgeons and suffered by patients
- 10 rules