Should a colostomy be fashioned when bowel continuity is restored after a mesenteric infarction

F. Adaba, A. Patel, A. Rajendran, J. Warusavitarne, JMD. Nightingale
Introduction

- Restoration of bowel continuity considered in patients with short bowel and intact colon

- High stool frequency/urgency/incontinence may be a problem

- Patients with residual small bowel \( \leq 50 \text{cm} \) may have a colostomy

- No evidence to support practice
Introduction - Importance of the Colon

Microbial activity:
- Fermentation of non-digestible carbohydrate
- Production of short chain fatty acid
- Energy salvage

Fluid and electrolyte balance:
- Water and sodium retention
- Potassium secretion
- Absorption of chloride ions

Acid base balance:
SECRETION OF BICARBONATE

Endocrine function:
SYNTHESIS OF GLP - 2, p-YY

Excretion of wastes

Paisley T, Mallappa S, Robertson D. Metabolic and dietary changes following Bowel surgery in Familial Adenomatous Polyposis. Thesis in fulfilment of Bsc(Honours), Faculty of Health and Medical Sciences, University of Surrey.
Aim

To determine if a colostomy is necessary when restoring bowel continuity in patients with residual small bowel length ≤50cm
Methods

• Retrospective review from 2000 – 2010.

• Outcome measure: stool frequency at 1 year following surgery

• Data collected:
  - Patients demographics
  - Residual small bowel length
  - Residual colon
  - Stool frequency at 1 year
  - Nutritional status at 1 year
Results - Demographics

- Restoration of bowel continuity: 57 (29 Females) patients
  - Colostomy: No (49, 86%) / Yes (8, 14%)
  - Data on stool frequency: Yes (30, 61%) / No (19, 39%)
  - Residual small bowel: ≤ 50cm (16, 53%) / > 50cm (14, 46%)
  - Nutrition at 1 year: On PN (9, 56%) / No PN (7, 44%)
    - On PN (3, 21%) / No PN (11, 79%)
Results

• 8 patients with colostomy:
  - All patients had residual small bowel ≤50cm
  - Expected high stool frequency and faecal incontinence
  - 1 patient had ano-rectal physiology test – low resting and squeeze pressure
Results - stool frequency

Median Stool frequency/day

Residual small bowel

Error Bars: 95% CI
Results – stool frequency

![Bar chart showing stool frequency in patients with and without parenteral nutrition (PN).](chart.png)

- **<51 cm**:
  - PN: n=9
  - No PN: n=7

- **>51 cm**:
  - PN: n=11
  - No PN: n=3
Results - Stool frequency

![Bar chart showing median stool frequency per day for different residual small bowel lengths and colon segments.](chart.png)

- Median stool frequency/day for residual small bowel length ≤ 51 cm:
  - Whole colon: n=5
  - Right colon: n=9

- Median stool frequency/day for residual small bowel length > 51 cm:
  - Whole colon: n=7
  - Right colon: n=4

- Median stool frequency/day for the left colon:
  - n=3
Conclusion

• Stool frequency similar in patients with small bowel lengths \(\leq 50\text{cm}\) and \(> 50\text{cm}\)

• Reduced oral intake may be a reason

• No justification for colostomy

• Faecal incontinence - Ano-rectal physiology may be required