Management of Acute Intestinal Failure

HIFNET and Parenteral Nutrition
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Problem List

Acute Problems
- Sepsis (T 38, WCC 18, CRP 250)
- Enterocutaneous Fistula
- Renal Impairment

Chronic Problems
- Heart Failure
- Diabetes
- Arthritis
I’m a general surgeon, get me out of here!

Wound

Fistula
- High fluid/electrolyte loss
- Skin excoriation
- Limitations of oral intake (Nutrition)

Septic

Unfit

Psychological Distress
Priorities – What are they?

Scott NA. Intestinal Fistulas. Surgery 2000; 167-171

Chintapatla S and Scott NA
Enterocutaneous Fistula Priorities

Sepsis
Nutrition
Anatomy
Plan + Procedure

Scott Surgery 2000; 167-171
Sepsis

Failure to eliminate sepsis

- MSOF
- Ineffective Nutrition Support
- Failure of fistula healing
- Death

Carlson Proc Nutr Soc 2003
Koperna and Schulz World J Surg 2000
Sepsis - Resuscitation

- ABC – O2
- Level of Care ?HDU  ?ICU
- Monitoring (CV; resp; urinary)
- Fluid replacement
Identification of Sepsis

- Hallmarks
  - Insidious
    - Hypoalbuminaemia
    - Hyponatraemia
    - Jaundice
    - Progressive weight loss
  - Imaging
    - CT
    - USS

Carlson and Irving 1997
Control of Sepsis I

Radiological
+/- Targeted Antibiotics

Percutaneous Drainage
Control of Sepsis II

Operative

- Exteriorization of Ends
- Proximal Diversion
- Laparostomy
Management of Fistulous Losses

Charting of Losses

Replacement
- Fluids
- Electrolytes
- Acid-Base
Nutrition

- Nutritional Assessment
- Oral intake?
- Need for Nutrition?
- Route of Support?
Intestinal Failure – Definition

Gastrointestinal Function is inadequate to maintain nutrition and hydration of the individual without supplements given orally or intravenously

Jeejeebhoy 2005: The etiology and mechanism of intestinal failure
Classification – Duration- Outcome

Temporary Type 1
post operative ileus,

Prolonged Type 2
Sepsis
Metabolic cx
Complex Abd Surgery

Permanent Type 3
Short Bowel
Dysmotility
Radiation Enteritis

Hospital PN
full recovery after 2/52

Hospital PN for weeks
HDU
ICU

Home PN

Shaffer et al Clin Nutr 2002
Parenteral Nutrition

- Dedicated Venous Access
- Prescription of PN
- Monitoring of PN
- Avoidance of line sepsis
High Output Stoma or Fistula

- Monitoring
  - Accurate Fluid Records
  - Serum U&E
  - Urinary Na

- Replacement
  - Fluid
  - Electrolytes (Na, Mg)
High Output Stoma or Fistula

Reducing output
- Limiting oral fluids
- Use of Oral Rehydration Fluids
- Drugs
  - Loperamide
  - Codeine Phosphate
  - PPI
  - Octreotide?
Wounds behaving badly

- Open Wound
- Mesh in wound
- Enteric contents
- Skin excoriation
- Superadded infection
- Frequent Bag leakages
- Demoralised patient staff
Wounds behaving badly

Stomatherapy
Tissue Viability

- Eakin Seals
- Wound Management Bags
- Suction
- Proximal Diversion
SNAP – A for Anatomy

Questions
- Residual disease
- Bowel discontinuity
- Distal Obstruction
- Simple or Complex

Methods
- SBS
- Fistulography
- Retrograde exam
- CT Scan
Small Bowel Series

Multi-site Small Bowel Crohn’s disease

Enterocutaneous Fistulas
CT Scan

CT Fistulogram
Barium enema

Colo-enteric-cutaneous Fistula
Rehabilitation

Mobilisation
Psychological Support

Training
Stoma Care
Wound Care
Home PN

I THINK MY WORK HERE IS DONE.
SNAP – P for Planned Procedure Restoration

Questions
- What needs done?
  Disease remaining
  Stoma or anastomosis?
- Who needs to be involved
SNAP – Planned Procedure Restoration

When should it be done?

Time allocation

Post-Op care

ICU or HDU

Yearly Planner
Resource Issues
Starting Point
Have you got what it takes?

- Emergency Operating Theatre
- Critical Care
- Imaging + Interventionalists
- Venous access expertise
- Stoma & Tissue Viability
- NST (inc gastroenterologist)
- Others (surgical, micro, AHP)
Are you up to the Mark?

- Infection rate for lines used for PN
- Unplanned return to theatre
- Unplanned ICU admission
- Recurrent fistulation rate
- Success in discontinuing PN
- Mortality Rate
- Unplanned Re-admissions
IF Steps

Resuscitation
- Sepsis
- Correct Fluid & Electrolytes

Restoration of Nutrition
- Insert central line
- Prescribe & Monitor PN
- Treat underlying disease
- Diet & Drugs

Rehabilitation
- Mobilise
- Psychology
- Long-term Vascular Access
- Patient Training

Reconstruction
- Anatomy
- Planned Procedure