Enteric Fistula
Principles of Management

David J. Dries, MSE, MD
Division Medical Director
HealthPartners Medical Group
Professor of Surgery & Anesthesiology
John F. Perry, Jr. Chair of Trauma Surgery
University of Minnesota

Mary Anne Obst, RN, BSN, CWON, CCRN
Complex Abdomen Specialist
Regions Hospital

Disclosure Slide

David J. Dries, MSE, MD
• Disclosure of Relevant Financial Relationships
  – I have no financial relationships to disclose.
• Disclosure of Off-Label and/or Investigative Uses
  – I will not discuss off label and/or investigational use of any medications in my presentation.

Mary Anne Obst, RN BSN, CWON, CCRN
• Disclosure of Relevant Financial Relationships
  - Acelity Companies (Acelity.com)-Education Consultant
  - Fistula Solution Products-Owner
• Disclosure of Off-Label and/or Investigative Uses
  – I will not discuss off label and/or investigational use of any medications in my presentation.

Experiments and Observations of the Gastric Juice and the Physiology of Digestion
By William Beaumont, MD
Causes of Enterocutaneous Fistula

- Iatrogenic – operation – percutaneous drainage
- Trauma
- Foreign body
- Crohn’s disease
- Intestinal tuberculosis
- Actinomycosis

Definitions & Classification

- Origin in gut segment
- Etiology
- Volume of output
  - Low output <200 mL/day
  - High output >500 mL/day
  - Moderate output 200-500 mL/day
- Abdominal wound (superficial and deep)
- History: One-third will close with support including control of sepsis and nutrition

Phase 1
Recognition and Stabilization

- 4 clinical problems
  - Fluid and electrolytes repletion
  - Sepsis control
  - Nutrition support
  - Skin care
Enteric Fistulas: Principles of Management
William P. Schecter, MD, FACS, Asher Hirshberg, MD, FACS, David S. Chang, MD, Hobart W. Harris, MD, FACS, Lena M. Napolitano, MD, FACS, Steven D. Wexner, MD, FACS, Stanley Dudrick, MD, FACS

**Phase 2**

Anatomical Definition and Decision
- Abdominal CT scan
- Fistulogram
- Spontaneous closure (37% to 46.2%)
- Eliminate infection
- Optimize nutrition

**Phase 3**

Definitive Operation
- All day case
- Staged
- Abdominal wall reconstruction (?)
- Bowel resection (or repair)

Patience, precision and planning...

**Special Challenge - Crohn's Disease**
- 20%-30% of all enterocutaneous fistulas
- Type 1 (spontaneous closure)
- Type 2 (require operation)
- Complete resection of fistulas and diseased bowel
- Ureteral stents, if colon is mobilized
- Stoma marking
Principles of the Fistula Team

Medical Management

Continuity with Rectum
- Variable output
- Output frequently related to lower bowel function

No Continuity with Rectum
- Output depends on intake
- Short bowel medication
- No rectal stool
- Can have mucus from rectum

Nutritional Plan

- TPN/PN
- Enteral feeding
  - tube placement choices
  - fistuloclysis
- Hybrid nutrition
  - transition methods

- Food
  - plain and simple (?)
  - short bowel syndrome
- Presurgical
  - Impact AR
    - immunonutrition
    - Clearfast
The Clinician’s Guide to Short Bowel Syndrome

• "...broadly defined as an inadequate absorptive capacity due to decreased length and/or decreased functional bowel" - Carol Rees Parrish

Short Bowel Syndrome

• Food Choices
  – Avoid sweets, chew well, salt, consult a nutritionist

• Medication Timing/Delivery
  – No timed release, better if a solution
  – Timing 30 min before meals

• How/What to drink
  – Sipping oral rehydration drinks
  – Don’t do the Dew...

Anti-Motility Medications

*Short Bowel Syndrome Medications*

• Loperamide (Imodium)
  – 2 mg tablet
  – Start= 2-6 mg q6h
  – Titrates up to 12-24 mg q 6 h

• Codeine
  – Start= 15-30 mg q 6 h
  – Titrates up to 100 mg q 6 h

• Lomotil
  – Start= 2.5 mg q 6 h
  – Titrates up to 5 mg q 6 h

• Tincture of Opium
  – 0.3 ml to 1 ml up to q 6 h
Conditioning Plan

- Smoking cessation
- Glucose control
- Optimize BMI
- Physical medicine evaluation
  - creative external abdominal support
- Consult other specialists
- Use of CeDar – mentality
  - do you want an “A” surgery?

Do you want a “A” Surgery ?

WE may need to work on some things...

Case #1
Enteroatmospheric Fistula
Case # 2
Enteroatmospheric Fistula

Case # 3
Fistuloclysis

Case # 4
Internal Intestinal Fistula
“Leak”
#5
Enterocutaneous Fistula
“The Last Case”