

Effective Fistula Management

Objectives

- Define “fistula”
- Discuss the management and discharge planning of a patient with a fistula
- Identify various pouching techniques used to manage fistulas

What is a Fistula?

- Abnormal opening or tract between two organs

Fistula Classification

Simple Fistulas

- Short direct tract
- No associated abscess
- No other organ involvement

Complex Fistulas

Type I

- Associated with an abscess
- Multiple organ involvement

Type II

- Opens into base of disrupted wound

Low Output

- <200 ml/ 24 hours

High Output

- >200 ml/ 24 hours

Fistula Terminology

FROM	TO	NAME
Bladder	Skin	Vesicocutaneous
Bladder	Vagina	Vesicovaginal
Colon	Skin	Colocutaneous
Colon	Bladder	Colovesical
Intestine	Colon	Enterocolonic
Intestine	Skin	Enterocutaneous
Intestine	Bladder	Enterovesical
Intestine	Vagina	Enterovaginal
Rectum	Vagina	Rectovaginal

GI Physiology

Salivary Glands

- 1000 ml/ 24 hr

Gastric Secretions

- 2000 ml/ 24 hr

Small Intestine & Accessory Organs

- Bile: 800 ml/ 24 hr
- Pancreatic: 1200 ml/ 24 hr
- Intestine: 3000ml/ 24 hr

Digestion & Absorption

Small Intestine

- Processes 8-10L/ 24 hr
- 4-6 hour transit time over 22 ft

Colon

- Absorbs 1-2 L/ 24 hr
- 18-24 hour transit time over 5-6 ft

Fistula Formation

Spontaneously

- Crohn's disease
- Systemic disease
- Radiation
- Impaired nutrition
- Steroid therapy
- Cancer

Postoperatively

- Tension on the anastomosis
- Inadequate blood supply to the anastomosis
- Improper suturing technique
- Abdominal sepsis
- Presence of foreign body, tumor or disease

Can Fistula Risk be Decreased?

- Meticulous surgical technique
- Broad-spectrum antibiotics
- Support of the circulatory system postoperatively
- Hydration
- Warmth
- Prevent sepsis

Fistula Occurrence

"...as much as 90% of enterocutaneous fistulas arise immediately after a surgical procedure and are the result of anastomotic breakdown."

Anastomosis

Mortality Rate

- 5-21 % Enterocutaneous fistula related mortality rate
- 37 % Mortality rate in patients with high output postoperative enterocutaneous fistulas

Clinical Presentation

- Malaise
- Fever
- Pain at fistula site
- Dehydration
- Electrolyte imbalance
- Malnutrition
- Sepsis
- Redness and skin breakdown at fistula site

Diagnostic Procedures

Blood work to assess electrolyte status

- Intravenous fluids given
- Blood cultures may be drawn
- Antibiotics

Determine extent of the fistula involvement

- Fistulagram
 - Location of the fistula
 - Tracts
- Presence of an abscess
- Upper GI w/ small bowel follow-through
- Computerized tomography
- Cystoscopy
- IVP

Nursing Assessment

- Evaluate the output

Interdisciplinary Plan of Care

- Infection control
- Fluid and electrolyte balance
- Nutritional support
- Closure
- Skin protection
- Psychosocial issues

Stabilization

- Sepsis
- Hydration
- Electrolyte balance

Promote spontaneous closure

Enteral Nutrition

Oral route

- Colocutaneous fistula
- Low output distal ileum fistula

Gastrostomy or jejunostomy route

- Esophageal fistula
- Gastric, duodenal or jejunal fistula with access placed distal to the fistula

Parenteral Nutrition

- High output fistula
- Upper GI fistulas when enteral access is not possible
- Intolerance to enteral solutions
- Distal bowel obstruction

Pharmaceuticals

Somatostatin

- Naturally occurring inhibitory hormone
- Reduction in GI secretions, motility and emptying
- Administered IV due to short half life (3 minutes)

Sandostatin (Octreotide)

- Synthetic, mimics natural Somatostatin
- Administered sub-q 3x daily

Surgical Intervention

- Spontaneous closure has not occurred after 8 weeks to 1 year after surgery
- Sepsis free for 6-8 weeks

Indications for Surgical Intervention

- Epithelium lined tract or stoma has formed
- Distal obstruction
- Foreign body in fistula tract
- Disruption of bowel continuity
- Disease at the site (Cancer/Crohn's)
- Large abscess is present

Complex Fistulas

- Resection with primary anastomosis of the bowel with or without proximal diversion

Select Simple Fistulas

- Tract can be visualized
- Endoscopic injection of fibrin glue may be use to seal the fistula tract

Nursing Goals

- Protection of the perifistular skin
- Containment of the fistula output
- Control odor
- Quantification of the output
- Implementation of a cost effective system
- Promote patient comfort, optimize physical function

Nursing Intervention

Evaluate the type of output

- Hi output vs. Low output
- Skin irritation
- Odor

Low output fistulas

Skin Protection may include:

- Skin barrier ointment
- Ostomy Powder
- Liquid skin sealants
- Solid skin barriers
- Gauze/ absorbent dressings

High Output Fistulas

Skin Protection may include:

- Ostomy Powder
- Liquid skin sealants
- Ostomy paste/strips
- Pouching system
- Continuous drainage
- Suction catheter/ drains
- Negative pressure wound therapy

Discharge Planning

- Decreased length of stay
- Who will manage the pouching system?

Provide verbal and written instructions

- Medications
- Diet
- Follow-up care
- Pouch changing procedure
- Where to obtain supplies
- S&S to report to MD

Pouching a Fistula

Evaluate abdominal contours & obstacles

- Lying
- Sitting
- Standing

Measure the wound/ fistula

- Determine skin barrier size needed

Evaluate the amount and type of output

- Pouch size (capacity)
- Spout vs. drainable outlet
- Access window
- Continuous drainage
- Is suction needed

Assess need for Suction catheters and drains

- Facilitate drainage of the pouch
- Prevents barrier breakdown
- Is an access port needed?

Challenges

- Scar Tissue
- Abdominal Contours
- Multiple Openings
- Deep Creases
- Obstacles
- Effluent management

Individualized complex plan of care

Resources

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