Small Bowel and Appendix

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Diseases of the Small Intestine

- Inflammatory diseases
- Neoplasms
- Diverticular diseases
- Miscellaneous

Inflammatory Diseases

- Crohn’s disease
- Tuberculous enteritis
- Typhoid enteritis

Crohn's Disease

- Chronic granulomatous disease of the GI tract
- Spontaneous remissions and acute exacerbations
- Peak 2nd and 4th decades
- Most common surgical disease of the SB
- Operation is rarely curative and for treating complications

Crohn's Disease

- No known etiology
- ?Autoimmunity
- Earliest lesion: aphthous ulcer
  - Ulcer → transmural inflammation → coalescence of ulcers (clefts/ sinuses) → "cobblestone"
  - Thickening and hypertrophy of bowel wall and narrowing of lumen
  - Non-caseating granulomas in bowel wall and in LN

Crohn's

- Thickened and shortened mesentery
- "Skip areas"
- "Creeping fat"
- Internal fistulae

Clinical presentation

- Recurring and persistent abdominal pain, diarrhea (85%), weight loss, fever (30%)
  - SB alone 30% perianal dz 25%
  - Ileocolitis 55% 41%
  - Colon alone 15% 48%
  - Perianal disease alone 5%

Diagnosis and Treatment

- UGI/ SBFT
- CT scan

- Medical management
- Surgical management
  - Obstruction – stricturoplasty, resection
  - Abscess
  - Fistulae – enteroenteral, enterocutaneous
  - Perforation
  - Malignancy

Neoplasms

- Benign
  - Adenoma
  - Leiomyoma
  - Lipoma
    - Hamartomas, fibroma, angioma, lymphangioma, neurofibroma, hemangioma
- Malignant
  - Adenocarcinoma
  - Sarcoma
  - Lymphoma
  - Carcinoid

Benign neoplasms

- May be asymptomatic
- Vague symptoms
- Obstruction
- Bleeding – anemia, Guaiac +ve stool, melena/ hematochezia
- Dx: SBFT, CT scan
- Tx: resection

Benign neoplasms

- Adenomas
  - 20% in duodenum, 30% in jejunum, 50% in ileum
  - True adenomas
  - Villous adenomas
- Leiomyomas (GIST)
  - Most common symptomatic lesion of SB
  - Most common in jejunum
- Lipomas
  - Most common in ileum

Peutz-Jeghers Syndrome

- Autosomal dominant
- Mucocutaneous melanotic pigmentation and multiple GI polyps (hamartomas)
- No malignant potential
- Jejunum and ileum most commonly involved
- 50% with colorectal polyps, 25% with gastric polyps
- Resect for obstruction/ bleeding

Malignant neoplasms

- Adenocarcinoma
  - 50% of malignant lesions
  - Duodenum>> jejunum >> ileum
  - Tx: wide resection with nodal basin
- Leiomyosarcoma
  - 20% of SB malignancies
  - Evenly distributed
  - Spread by direct invasion, hematogenous and transperitoneal seeding

Malignant neoplasms

- Lymphomas
  - 10-15% of SB malignancies
  - Most common in ileum
  - Primary GI versus generalized disease
- Carcinoid
  - Arise from enterochromaffin cells
  - Variable malignant potential
    - Appendix 48%→ 3% mets
    - Ileum 28% → 35% mets

Carcinoid

- <1 cm — 75% → 2% mets
- 1-2 cm — 20% → 50% mets
- >2 cm — 5% → 80-90% mets

- No mets if limited to submucosa

- Carcinoid syndrome: cutaneous flushing, bronchospasm, diarrhea, vasomotor collapse

Diverticular disease

- Duodenum>> jejunoileum
- False diverticulum
- Obstruction/ diverticulitis/ hemorrhage/ bacterial overgrowth

Meckel's diverticulum

- True diverticulum
- Incomplete closure of omphalomesenteric duct
- Rule of 2's
- Obstruction/ inflammation/ bleeding
- Dx: Meckel's scan, enteroclysis, CT scan

SBO

- Adhesions
- Hernia
- Malignancy
- Intussusception
- Gall stone ileus
- Volvulus

SBO

- Clinical presentation
  - Crampy abdominal pain
  - Nausea
  - Vomiting
  - Abdominal distension
  - Obstipation
- Diagnosis
  - History and physical
  - Abdominal x-rays, CT scan, SBFT
- Treatment
  - Non-operative vs. operative

Appendix

- Inflammatory disease
- Malignancy
  - Carcinoid
  - Adenocarcinoma

Appendicitis

Clinical presentation

- Abdominal pain
- Anorexia
- Nausea/ vomiting
- Fever
- Diarrhea

Appendicitis

- Diagnosis
  - CLINICAL
  - Labs, x-rays, CT scan
- Treatment
  - Appendectomy – laparoscopic vs. open
  - Percutaneous drainage of abscess
  - Interval appendectomy