Jejunoileal Diverticulitis: Big Trouble in Small Bowel

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LEARNING OBJECTIVES:
1. Be aware of the relatively rare diagnosis of jejunoileal diverticulitis (non-Meckel's) and diverticulosis.
2. Learn the epidemicology, pathophysiology, imaging findings, and differential diagnosis of jejunoileal diverticulitis.

Differential Diagnosis:
- Diverticulitis: outpouching from duodenum are very common, uncommon in remainder of small bowel
- Lymphoma: destroys wall of small bowel, necrotic tumor forms cavity in communication with bowel lumen
- Metastases: malignant melanoma is especially likely to cause annular dilatation, similar to lymphoma
- Bowel-Bowel Anastomotic: common after prior small bowel resection, Roux limb, or to bowel obstruction
- GIST: duodenum is second most common site (after stomach), large, exophytic mass arising from duodenum wall
- Small Bowel Obstruction: chronically dilated small bowel may attain large diameter (> 6 cm)
- Crohn Disease: mesenteric, fibrofatty proliferation, large fibrotic smaller bowel wall thickening, luminal narrowing, mesenteric hypervascularity
- Intestinal Scleroderma: can cause sacculations that might simulate diverticula
- Abdominal Foreign Bodies: perforation of bowel by foreign body may cause extraluminal gas, fluid, inflammation.
- Meckel Diverticulum: congenital outpouching of 2 feet of ileal ileum, otherwise indistinguishable from other diverticula

DISTRIBUTION OF SMALL BOWEL DIVERTICULA

- Diverticula: 57% jejunoileal, 23% jejunum, 19% ileum

Clinical History
- 76% of patients with diverticulosis are asymptomatic
- 15% have symptomatic disease resulting from diverticulitis (inflammation of a diverticulum)
- 10% can have painless bleeding
- Acute symptoms are usually due to complications

CT Findings
- Usually presents as a focal area of bowel wall thickening most prominent on the mesenteric side of the bowel with adjacent inflammation and/or abscess formation
- When abscess is present, CT findings may include relatively smooth margins, areas of low attenuation within the mass, rim enhancement after IV contrast administration, gas within the mass, displacement of the surrounding structures, and edema of thickening of the surrounding fat or fascial planes

Complications of Jejunoileal Diverticulitis
- In one retrospective review (1) of 208 patients with symptomatic small bowel diverticulosis, complications developed in 42 of the patients (20%) including:
  - Bleeding in 20%
  - Diverticulitis with perforation and abscess formation in 10%
  - Malabsorption in 8%

TREATMENT
- Varieties with severity
- Liquid diet, oral antibiotics for mild disease
- IV antibiotics, NPO for more severe disease
- Radiographic or percutaneous drainage of abscess
- Surgery
- Fistula
- Diverticulitis or abscesses resected

Jejunoileal vs Duodenal Diverticula

CASE 1
- HISTORY: 52 year old female with left upper quadrant pain
- FINDINGS: 2.2 cm diverticulum extending from the distal ileum with adjacent induration of the mesenteric fat, consistent with an ileal diverticulum.

CASE 2
- HISTORY: 63 year old female with epigastric and left upper quadrant pain
- FINDINGS: 4.7 cm diameter outpouching seen arising from the proximal small bowel and associated with adjacent inflammatory stranding. The colonic loops were well separated from this finding.

CONCLUSION
- Diverticulitis in the jejunum and ileum is relatively rare compared to diverticula in the colon and duodenum. Jejunoileal diverticulosis is also correspondingly rare and can have subtle findings, but it is well demonstrated if the radiologist is aware of the diagnosis. Like colonic diverticulosis, jejunoileal diverticulosis can be medically managed if the case is mild or uncomplicated, which can spare the patient unnecessary surgical interventions. The differential diagnosis of jejunoileal diverticulitis, includes secondary inflammation from adjacent structures, perforated neoplasm, foreign body perforation, small-bowel ulceration from nonsteroidal anti-inflammatory drug use, and Crohn's disease. Major complications of jejunoileal diverticulosis and diverticulitis include gastrointestinal hemorrhage, gastrointestinal obstruction, acute perforation, intestinal obstruction, and localized abscess.

REFERENCES