Gastric Outlet Obstruction

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- Also known as pyloric obstruction
- Clinical and pathophysiological consequence of any disease process that produces a mechanical impediment to gastric emptying
- Clinical syndrome characterized by epigastric abdominal pain and postprandial vomiting

Etiology

- The two common causes of gastric outlet obstruction are
  1. Gastric cancer
  2. Pyloric stenosis secondary to peptic ulceration

- Should be considered malignant until proven otherwise

Neoplastic

- **Malignant**

1. Pancreatic adenocarcinoma with extension to the duodenum or stomach
2. Distal gastric cancer
3. Gastric lymphoma
4. Large neoplasms of the proximal duodenum and ampulla
5. Local extension of advanced gallbladder carcinoma or cholangiocarcinoma
6. Metastatic or primary malignancy in the duodenum
7. Gastric carcinoid

- **Benign**

1. Prolapse of a large antral polyp

Inflammatory

- Peptic ulcer disease
- Pancreatitis
- Caustic injury

Infiltrative disease

- Crohn disease
- Gastric tuberculosis

Iatrogenic

- Percutaneous endoscopic gastrostomy (PEG) tube migration
- Post-surgical complications-
  1. Sleeve gastrectomy
  2. Placement of an intragastric balloon
  3. Pylorus-preserving Whipple procedure
  4. Gastrojejunostomies

Other rare causes

- Bouveret syndrome
- Annular pancreas
- Intramural hematomas
- Gastric bezoar
- Gastric volvulus

Clinical features

- Epigastric pain
- Nausea and/or vomiting
- Early satiety
- Abdominal distension or bloating
- Weight loss

Physical examination

- Signs of malnutrition or volume depletion
- Succussion splash (low sensitivity)
- Left supraclavicular lymph node (Virchow's node) or periumbilical lymph node (Sister Mary Joseph's node) may be seen in metastatic gastric cancer
- A palpable abdominal mass (in a minority of patients)

Laboratory findings

- Electrolyte abnormalities
  - Hypokalemia
  - Hypochloremic metabolic alkalosis
- Anemia
- Serum gastrin levels in the 400 to 800 pg/mL range – suggestive Zollinger-Ellison syndrome

Imaging

- **Abdominal CT scan**
  - Gastric distention
  - Retained material within the gastric lumen
  - Associated air-fluid level
- **Water-soluble contrast or barium studies** - if a partial obstruction is expected
- **Plain films of the abdomen**
  - An enlarged gastric bubble
  - Dilated proximal duodenum

Management

Supportive care in all patients

- Should receive nothing by mouth
- Nasogastric tube should be placed for gastric decompression
- Intravenous fluids
- High-dose proton pump inhibitors (PPIs)
- Parenteral nutrition - if definitive therapy is not imminent or for presurgical optimization of nutritional status

Specific management

Peptic ulcer disease

- **Conservative management** - PPI, avoidance of nonsteroidal antiinflammatory drugs and, eradication of *Helicobacter pylori* infection
- **Endoscopic therapy** - who fail to respond to a brief trial of conservative management

Endoscopic dilation - Self-expandable metal stents

Balloon dilatation

- **Surgery in selected patients**

Chronic pancreatitis

- Unlikely to respond to balloon dilation
- Usually require gastric bypass with gastrojejunostomy
- Rare complication of pseudocysts

Pseudocyst

Endoscopic drainage

Acute pancreatic fluid collection

- Computed tomography-guided percutaneous drain placement
- Transpapillary endoscopic drainage
- Endoscopic cyst gastrostomy or duodenostomy
- Surgical internal drainage
- Mature cyst wall and apposition of the cyst and the gastric or duodenal wall - endoscopic therapy

Crohn disease

- Medical, endoscopic, and surgical approaches
- Corticosteroids
- Endoscopic balloon dilation (for strictures)

Requiring repeated therapy

Malignant obstruction

- Palliation of locally advanced pancreatic cancer
- Obstructing gastric adenocarcinomas - surgical bypass through a gastrojejunostomy or placement of an endoscopic enteral stent
  - Palliative surgical resection
  - Radiation therapy
  - Endoscopic stenting
  - Palliative decompressive gastrostomy
- Gastrointestinal tract lymphoma - chemotherapy