

## 4. Abdominal Masses

Many disease processes, including malignancies, infections, and bowel obstruction, present with abdominal masses. The most serious and dramatic etiology is an abdominal aortic aneurysm, which is responsible for 15,000 deaths per year. More frequently, abdominal masses are due to constipation and other non-emergent etiologies.

### Differential Diagnosis

- Constipation/inability to pass stool
  - Most commonly due to dehydration and/or low dietary fiber intake
  - Hirschsprung's disease (congenital aganglionic megacolon)
  - Medications: Narcotics, opiates, or anticholinergic medications
  - Ogilvie's syndrome (colonic pseudo-obstruction)
- Ascites
  - May be due to malignancy, nephrotic syndrome, liver disease, or congestive heart failure
- Large or small bowel obstruction
- Soft tissue mass
  - Tumor (e.g., ovarian, uterine, bowel, liver)
  - Uterine fibroids
  - Lipoma: Soft, fleshy, mobile, and contained in the subcutaneous tissue of the abdominal wall
  - Hernia: Bowel sounds may be audible over the mass; incarceration causes pain; strangulation leads to bowel death
  - Pyloric stenosis: Seen primarily in infants; palpable pyloric olive-shaped mass
  - Pregnancy
  - Massive lymphadenopathy (e.g., lymphoma)
  - Organomegaly (e.g., hepatomegaly, splenomegaly)
  - Infection: Intra-abdominal or tubo-ovarian abscess
  - Abdominal aortic aneurysm: Associated with pulsatile mass and hypotension
- Cyst
  - Mesenteric cysts: Fluid collections in the mesentery; typically benign
  - Hydatid cyst: Caused by larval form of *Echinococcus granulosus*; typically found in the liver in patients with history of travel to tropical areas
  - Dermoid cyst: May be massive due to delayed presentation
- Palpable gallbladder (Courvoisier's sign): Associated with common bile duct obstruction and a distended gallbladder

### Workup and Diagnosis

- History and physical examination
  - Note associated symptoms (especially fever, changes in bowel habits, weight change, urinary symptoms, and rectal bleeding)
  - Abdominal and pelvic examinations to localize areas of tenderness
- Initial laboratory studies may include CBC, electrolytes, BUN/creatinine, liver function tests, urinalysis, and  $\beta$ -hCG
- Tumor markers (if malignancy is a concern), blood cultures (if infection is suspected), and toxicology screen may be indicated
- Plain KUB X-rays may reveal constipation, obstruction, or free intraperitoneal air
- Abdominal CT scan with IV and oral contrast will evaluate for abscess, bowel pathology, and hepatosplenomegaly
- Barium enema may reveal abnormal bowel in cases of malignancy
- Colonoscopy is useful for diagnosis of bowel pathology
- Laparoscopy allows direct visualization of the intra-abdominal cavity
- Paracentesis with fluid evaluation

### Treatment

- Immediate attention to life-threatening causes (e.g., ruptured abdominal aortic aneurysm)
- Most cases of abdominal masses are treatable once the etiology is identified
- Many malignant and benign masses (e.g., fibroids, hernia) require surgical intervention
- Infectious causes require antibiotics and may require operative intervention (e.g., abscess drainage)
- Constipation is typically treated with laxatives, enemas, and increased dietary fiber and fluids; manual disimpaction is reserved for fecal impaction; discontinue offending medications (e.g., narcotics)
- Hirschsprung's disease may require operative treatment
- Ogilvie's syndrome responds to decompression by rectal tube or IV neostigmine
- Organomegaly typically resolves once the underlying process is treated (e.g., mononucleosis resulting in splenomegaly)