Acute Abdomen

Inflammatory & GI Bleeding

1st Department of Surgery, Pavol Jozef Šafarik University
Slovak Republic
Inflammatory AA

- Defined by inflammation in the abdominal cavity
  - Limited to the organ
  - Spreading into surrounding tissues – localized peritonitis
  - Affecting whole abdominal cavity – diffuse peritonitis

- Includes:
  - Acute appendicitis
  - Acute cholecystitis
  - Acute pancreatitis
  - Acute diverticulitis
  - Perforated peptic ulcer
Acute appendicitis

- The most common reason for inflammatory AB
- Inflammation starts at the mucosa
- Pathological classification
  - Catarrhal
  - Phlegmonous
  - Gangrenous
  - Perforated (within 48 hours)
    - Periapendicular abscess
    - Diffuse peritonitis
Diagnosis

- Early recognition needed!
- Based on history & physical examination
- Symptoms may vary according to the position of appendix:
  - Pelvic (diff. Dg. adnexitis, diarrhoe)
  - Mediocecal (diff. Dg. small bowel obstruction)
  - Retrocecal (diff. Dg. renal colic)
  - Subhepatic (diff. Dg. acute cholecystitis)
  - Left-sided (diff. Dg. acute diverticulitis)
History

- Epigastric & periumbilical pain
- Anorexia, nauzea
- Pain migrating to the right lower quadrant
- Single episode of vomiting (no relief)
- Adynamic ileus or 1-2 episodes of diarrhea
Physical examination

- Axillar body temperature slightly increased (below 38 °C)
- Disproportional tachycardia (>90/min)
- Pain on palpation in the Mc Burney’s point
- Signs of peritoneal irritation:
  - Dunphy’s sign (movement or coughing)
  - Rovsing’s sign (preassure on the left)
  - Blumberg’s sign (relieved compression on the left)
  - Plenies’s sign (percussion)
  - Obturator sign (internal rotation of right hip)
  - Iliopsoas sign (extension of the right hip)
Laboratory investigations

- Not specific
- Elevation of white blood cells count with neutrophilia
- CRP usually normal
  - Increased in subacute appendicitis
  - Elevation in Crohn’s disease
Imaging

- Minor value

- Abdominal ultrasonography
  - Thickening of the wall
  - Diameter over 7 mm
  - Negative finding vs. appendix not visualized

- CT scan
  - In dubious cases
  - Irradiation
Differential diagnosis

- Perforated gastroduodenal ulcer
- Acute pancreatitis
- Crohn’s disease
- Perforated right-sided colonic cancer
- Acute gastroenteritis
- Acute cholecystitis/right sided renal colic
- Gynecological diseases
  - Adnexitis
  - Perforated or torquated ovarian cyst
  - Ruptured ectopic pregnancy
Treatment

- Surgical – appendectomy
  - Open
  - Laparoscopic

- Advantages of laparoscopic approach
  - Diagnostic laparoscopy
  - Fewer wound complications
  - Earlier restoration of physical activity

- What if appendix macroscopically negative?
  - Other pathology explaining symptoms?
  - No pathology present?
Appendicitis in children

- 90% of acute abdomen in this subpopulation
- Diarrhea with fever & vomiting
- Perforation occurs quickly
  - Relatively short omentum
  - Decreased inflammatory response
  - Limited systemic resistance against infection
Appendicitis in elderly

- Rare, but possible!
- Mild symptoms
  - Subacute appendicitis
  - Periapendicular abscess
- Differential diagnosis from cancer necessary
Appendicitis in pregnancy

- Early recognition needed!
- Based on history & physical examination
- Symptoms may vary according to the position of appendix:
  - Pelvic
  - Mediocecal
  - Laterocecal
  - Retrocecal
  - Subhepatic
  - Left-sided
Subacute appendicitis

- Inflammatory process slowed down
- Pseudotumor involving appendix & surrounding tissues/organs
- Symptoms & clinical findings
  - Righ lower quadrant pain, >48 hours
  - Increased body temperature
  - Palpable painful mass in the right iliac region
  - Positive USG/CT finding
  - Elevated CRP
Treatment

- Conservative
  - ATB
  - Bowel rest & observation

- Colonoscopy a road!

- Delayed appendectomy
  - 8-12 weeks after the resolution of symptoms
  - Laparoscopic
Other inflammatory AA

- Acute cholecystitis
- Acute pancreatitis
- Acute diverticulitis
- Perforated peptic ulcer
- Acute gastroenteritis
Diffuse peritonitis

- Generalized infection of the peritoneum
  - Primary (bacterial, chlamydial, fungal, mycobacterial)
  - Secondary (spread from inflamed organs)
  - Tertiary (after surgical interventions)

- Pathomorphological classification
  - Purulent
  - Stercoral
  - Biliary
  - Urinal
  - Chemical
Symptoms & therapy

- Sudden or slow onset
  - Severe shocking diffuse abdominal pain
  - Tachycardia, tachypnoe, overall alteration
  - Vomiting & bowel paralysis
  - Defanse musculaire

- Do not loose time – urgent surgical intervention
  - Source control
  - Cleaning of the abdominal cavity
  - Drainage
  - Management of subsequent shock
Localized peritonitis

- Symptoms depend on the extent – phlegmone vs. abscess
  - Tenderness & guarding
  - Increased CRP
  - USG, CT, NMR

- Typical abscess localizations
  - Subphrenic abscess
  - Douglas pouch abscess
  - Intestinal abscess

- Course of the disease
  - Resolution with conservative/surgical treatment
  - Progression into generalized peritonitis
Bleeding into GIT

- May represent a life threatening condition
  - Initial assessment + resuscitation
  - History & physical examination
  - Localization of bleeding & initial treatment
  - Prevention of re-bleeding

- Classification
  - Upper-GI tract bleeding
  - Lower-Gi bleeding
Upper-GI bleeding

- Symptoms
  - Haematemesis
  - Melanemesis
  - Melena

- Diagnosis – upper-GI endoscopy

- Types
  - Non-variceal (80 %)
  - Related to portal hypertension (20 %)
Upper-GI bleeding

- Non-variceal
  - Peptic ulcer disease (50 %)
  - Mallory-Weiss tears (15 %)
  - Gastritis or duodenitis (10 %)
  - Oesophagitis (10 %)
  - AV malformations, tumors, miscellaneous (5 % each)

- Related to portal hypertension
  - Oesophageal varices
  - Gastric varices
Lower-GI bleeding

- Symptoms
  - Hematochezia
  - Melena

- Diagnosis – rectal examination!

- Types
  - Colon (95 %)
  - Small bowel (5 %)
Treatment of GI bleeding

- **Conservative - pharmacotherapy**
  - Hemostyptic agents
  - PPIs
  - Splanchnic vasoconstriction
  - Transfusion therapy

- **Endoscopic**
  - Sclerotherapy
  - Banding
  - Compression therapy

- **Surgical**
  - Local bleeding control, ligature of a. gastroduodenalis, resections
Suggested readings

Frankovicova et al.
Surgery for Medical Students, 2nd edition
Chapter 31, pages 273-276, 278-282