The Acute Abdomen

Dr David Debruyne
Abdominale Heelkunde
UZ Brussel
‘The general rule can be laid down that the majority of severe abdominal pains which ensue in patients who have been previously fairly well and which last as long as six hours, are caused by conditions of surgical import’

(Zachary Cope, 1881-1974)
The Acute Abdomen: Definition

- ‘severe’ abdominal pain
- acute onset
- short duration
- urgent intervention necessary
The Acute Abdomen: The problem

- Identification of a clinical pattern

- Choose a management option

- Pitfall: ‘everybody’s business is nobody’s business’
The Acute Abdomen: Management Options

- Emergent (‘surgery now’)
- Urgent (‘surgery today’)
- Semi-urgent (‘surgery tomorrow’)
- Non operative
  - Discharge
# Recognition of a clinical pattern: How?

- **History**: 65%  
  - **Clinical Examination**: 15%  
  - **Special investigations**: 10%  
  - **Exploration, Post mortem**: 5-10%
Recognition of a clinical pattern: What?

- Abdominal pain and shock
- Generalized peritonitis
- Localized peritonitis
- Intestinal obstruction

Medical illness/Aspecific abdominal pain
I) Abdominal pain and (hemorragic) shock

- Clinical presentation
  - Severe abdominal pain
  - Pale, tachycardia, hypotensive
I) Abdominal pain and (hemorragic) shock

- Differential Diagnosis
  - Ruptured AAA
  - Ruptured ectopic pregnancy
  - Spontaneous splenic rupture
  - Abdominal trauma (spleen, liver, mesenteric, major vessel)
  - (Spontaneous) retroperitoneal bleeding
I) Abdominal pain and (hemorrhagic) shock

- **Management**
  - Emergency operation/intervention

  - Hemorrhagic shock management
    - Large bore perfusion catheter (14-16G)
    - Cristalloids, packed cells, FFP
    - Clothing profile
    - Urinary catheter, gastric tube
1) Abdominal pain and (hemorragic) shock

- Pitfalls

→ Resuscitation and investigation in stead of resuscitation and immediate operation
II) Generalized peritonitis +/- hypovolemic (non-hemorrhagic) shock

- Clinical presentation
  - Severe abdominal pain, ‘looks sick’
  - Diffuse peritoneal signs: boardlike rigidity, rebound tenderness, defens, guarding
  - Systemic inflammatory response, septic, shock
II) Generalized peritonitis +/- hypovolemic (non-hemorrhagic) shock

- Differential diagnosis
  - Perforated gastric/duodenal ulcer (tumor)
  - Colonic perforation
  - Appendicitis
  - Acute mesenteric ischemia
  - Acute pancreatitis
II) Generalized peritonitis +/- hypovolemic (non-hemorrhagic) shock

- Management
  - Preoperative preparation and operation
  - Except acute pancreatitis
II) Generalized peritonitis +/- hypovolemic (non-hemorragic) shock

- **Pitfalls**
  - Acute pancreatitis (‘the great mimicer’)
    - Serum amylase
  - Mesenteric ischemia
  - The geriatric patient (no classical peritoneal signs)
III) Localized peritonitis

- Clinical presentation

  → One quadrant peritonitis

  → Systemic inflammatory response +/- sepsis
III) Localized peritonitis

- **Differential diagnosis**
  - RUQ: cholecystitis
  - RLQ: acute appendicitis
  - LLQ: acute diverticulitis
  - LUQ: silent quadrant
  - LQ pain from gynecologic origin
III) Localized peritonitis

- Management

  - Preoperative preparation and operation (surgery tomorrow)

  - Conservative management

  - Except acute appendicitis (surgery today)
III) Localized peritonitis

- Pitfalls: Lower abdominal pain from gynecologic origin
  
  → Ovarian torsion
  → Extra-uterine pregnancy
  → Corpus luteum bleeding
  → Pelvic inflammatory disease
IV) Intestinal obstruction

- **Clinical presentation**
  - Central colicky abdominal pain
  - Constipation
  - Vomiting (early/late)
  - +/- abdominal distention (colon, distal small bowel)
  - Dehydration/hypovolemic shock (third space loss)
IV) Intestinal obstruction

- **Differential diagnosis**
  - Small bowel (vomiting, colicky abdominal pain)
    - Adhesions
    - Hernia
  - Colon (abdominal distention +/- vomiting)
    - Tumor
    - Volvulus
    - Fecal impaction
IV) Intestinal obstruction

- **Management**
  - **Small bowel**
    - Active observation
    - Except clinical peritonitis or unknown origin
  - **Colon** (cave caecum blow out)
    - Preoperative preparation and operation
    - Colonoscopy
IV) Intestinal obstruction

● Pitfalls
  → Small bowel
    ● Femoral hernia
    ● Closed loop obstruction (strangulation)
    ● Internal herniation
    ● Caecum tumor
    ● Gallstone ileus
    ● Bezoar
IV) Intestinal obstruction

- Pitfalls
  - Colon
    - Acute colonic dilatation + colitis: toxic megacolon
      - IBD
      - Infectious
    - Acute colonic pseudo-obstruction (Ogilvie)

Water soluble contrast enema DD distal obstruction
(Koruth NM J R Coll Surg Edinb 1985;30:258-60)

Colonoscopy DD distal obstruction + desufflation
V) Important medical causes

- Inferior wall myocardial infarction
- Diabetic keto-acidosis
- Basal pneumonia
- Porphyria
VI) Aspecific abdominal pain (Gray D Br J Surg 1987;74:239-42)

- 35% of the patients with acute abdominal pain

- Causes
  - Gynaecological causes
  - Irritable bowel syndrome
  - Psychosomatic pain
  - Abdominal wall pain
  - Viral gastroenteritis
  - Bacterial gastroenteritis
Conclusion

- Accurate history taking and careful clinical examination are the main instruments in the evaluation of patients with acute abdominal pain.

- Recognition of distinct and well defined clinical patterns reminding classical pitfalls, should lead to the correct management option.