Diagnosis and Management of Acute Abdominal Pain

Prof. G. Zuliani
Definition

• Acute Abdominal Pain (AAP):
  1. Presentation of previously undiagnosed abdominal pain
  2. Lasting < 6 hours

- 20 to 40% admission rates
- 50 to 65% inaccurate initial diagnosis

- AAP represent about 5% of E.R. visits
- About 10% of malpractice claims !!

De Dombal FT. Diagnosis of acute abdominal pain. New York: Churchill Livingstone
Introduction

• > 100 causes of AAP have been reported!
  – Non Specific Abdominal Pain: 34%
  – Acute appendicitis: 28%
  – Acute cholecystitis: 10%
  – Small bowel obstruction (SBO): 4%
  – Perforated peptic ulcer: 3%
  – Pancreatitis: 3%
  – Diverticular disease: 2%
  – Others: 13%
  – NON SURGICAL AAP …
Pathophysiology

- **Visceral pain**
  - Distention, inflammation or ischaemia in hollow, viscous & solid organs
  - Localization depends on the embryologic origin of the organ:
    - *Up gut to epigastrium*
    - *Mid gut to umbilicus*
    - *Hind gut to the hypogastric region*

- **Parietal pain**
  - Is localized to the dermatome above the site of the stimulus.

- **Referred pain**
  - Produces symptoms, not signs (e.g. tenderness)
Generalized AP

- Perforation
- Abdominal Aortic Aneurism (AAA) rupture
- Acute pancreatitis
- Diabetes: ketoacidosis
- Bilateral pleurisy
- FMF & hereditary fevers
Perforation

Acute pancreatitis
Central AP (mesogastrium)

- Early appendicitis
- Small Bowel Obstruction
- Acute gastritis
- Acute pancreatitis
- Rupture of AAA
- Mesenteric infarction
Small Bowel Obstruction

Mesenteric infarction
Mesenteric ischemia-infarction

• Occlusion of the mesenteric vessels is regarded as one of those conditions of which: “the diagnosis is impossible, the prognosis hopeless, and the treatment almost useless”.
• This indicates the extreme difficulties faced by physicians in diagnosing and treating acute mesenteric ischemia.
• Symptoms are non-specific before evidence of peritonitis presents. Thus, diagnosis and treatment are often delayed.
• Overall, the mortality rate in the last 15 years averages 70%, with a range of 59-93%
Mesenteric ischemia-infarction

• Superior Mesenteric Artery Occlusion (at least 60% of cases)
  – Embolism: Atrial Fibrillation, AMI, Endocarditis, Valve disorders
  – Thrombosis: Atherosclerotic plaque rupture
• Non-occlusive Mesenteric Ischemia
  – Atherosclerosis + shock-hypotension
• Mesenteric Venous Thrombosis
  – Primary clotting disorder
Mesenteric infarction

Clinical presentation

- Early (in the absence of peritonitis) physical signs are few and non-specific: abdominal pain, nausea, vomiting, diarrhea, blood per rectum. Tenderness is minimal to non-existent.

- Later, peritoneal signs may develop when infarction with necrosis or perforation occurs. Tenderness becomes severe. Bowel sounds range from hyperactive to absent. Fever, hypotension, tachycardia, tachypnea, and altered mental status are observed. Foul breath may be noted with bowel infarction, from the putrefaction of undigested alimentary material accumulated proximal to the pathologic site
Mesenteric infarction

Diagnosis

- ↑ WBC count, LDH, CPK, AST
- ABG: acidosis (lactic acid)

- **Abdomen CT scan:** good sensitivity and specificity only if occlusion of small bowel is present
- **Abdomen X-ray:** usually not useful (non specific findings)
Always think to a possible acute appendicitis in a subject with appendix!

The classic symptoms of appendicitis include:
- *Dull pain near the umbilicus or the upper abdomen that becomes sharp as it moves to the lower right abdomen;* this is usually the first sign.
- Loss of appetite
- Nausea and/or vomiting soon after abdominal pain begins
- Abdominal swelling
- Fever
- Inability to pass gas
## Alvarado Scale for the Diagnosis of Appendicitis

<table>
<thead>
<tr>
<th>Manifestations</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>Migration of pain</td>
<td>1</td>
</tr>
<tr>
<td>Anorexia</td>
<td>1</td>
</tr>
<tr>
<td>Nausea and/or vomiting</td>
<td>1</td>
</tr>
<tr>
<td><strong>Signs</strong></td>
<td></td>
</tr>
<tr>
<td>Right lower quadrant tenderness</td>
<td>2</td>
</tr>
<tr>
<td>Rebound</td>
<td>1</td>
</tr>
<tr>
<td>Elevated temperature</td>
<td>1</td>
</tr>
<tr>
<td><strong>Laboratory values</strong></td>
<td></td>
</tr>
<tr>
<td>Leukocytosis</td>
<td>2</td>
</tr>
<tr>
<td>Left shift in leukocyte count</td>
<td>1</td>
</tr>
</tbody>
</table>
Epigastric pain

- Gastric or Duodenal Peptic Ulcer
- Oesophagitis
- Acute pancreatitis
- AAA rupture
- Gallbladder disease (deep pain)
- AMI (inferior)
RUQ pain

- Gallbladder disease (complicated)
- Duodenal Ulcer
- Acute pancreatitis
- Pneumonia
- Renal abscess - acute perinephritis
- Sub-phrenic abscess
LUQ pain

- Gastric Ulcer
- Pneumonia
- Acute pancreatitis
- Spontaneous splenic rupture
- Renal abscess - acute perinephritis
- Sub-phrenic abscess
Suprapubic pain

- Acute urinary retention
- Urinary Trait Infection
- Cystitis
- Pelvic Inflammatory Disease (PID)
- Ectopic pregnancy
- Diverticulitis
Pelvic Inflammatory Disease (PID)

Pelvic inflammatory disease (PID) is a generic term for inflammation of the uterus, fallopian tubes, and/or ovaries as it progresses to scars formation with adhesions to nearby tissues and organs. PID can refer to viral, fungal, parasitic, bacterial infections. PID should be classified by affected organs, the stage of the infection, and the organism(s) causing it. Although a sexually transmitted infection is often the cause, many other routes are possible, including lymphatic, post-partum (abortion) or intrauterine device (IUD) related, and hematogenous spread. Two thirds of patients with laparoscopic evidence of previous PID were not aware they had PID.
Urinary retention

Causes of urinary retention

- Benign prostatic hyperplasia (BPH)
- Prostatic carcinoma
- Urethral stricture
- Pelvic mass (especially in women)
- Urinary tract infection
- Constipation
- Neurological
- Postoperative pain or immobility

Types of Retention

can be **acute** or **chronic** or **acute-on-chronic**
RIF pain

- Acute appendicitis
- Mesenteric adenitis (young)
- Perfored Duodenal Ulcer
- Diverticulitis
- PID
- Salpingitis – Ovarian Torsion
- Ureteric colic
- Meckel’s diverticulum
- Ectopic pregnancy
- Crohn’s disease
- Biliary colic (low-lying gall bladder)
LIF pain

- Diverticulitis
- Severe Constipation
- Irritable Bowel Syndrome (IBS)
- PID
- Sigma-Rectum Cancer
- Ulcerative Colitis
- Infective Enteritis
- Ectopic pregnancy
- Salpingitis – Ovarian Torsion
DIVERTICULA: CLINICAL PRESENTATION

1. **Diverticulosis**: anatomic presence of diverticula

2. **Diverticular disease**: any clinical manifestation of diverticula

3. **Painful diverticular disease**: symptomatic diverticulosis, without diverticulitis

4. **Acute diverticulitis**: symptomatic inflammation or perforation of diverticula
DIVERTICULA: NUMBERS AND PATHOPHYSIOLOGY

• Up to 5%, life long, will develop complications; if considered by symptoms - up to 25%.

• 2%, life long, will need hospitalization; of them, about 50% will require surgery.

• 30% persistence of symptoms or recurrent diverticulitis in 5 years after the first attack.
I sintomi classici sono:

- **Dolore profondo** al quadrante inferiore di sn (70%); il dolore ha esordio acuto è persistente e peggiora nel tempo
- **Blumberg +**
- **Febbre e leucocitosi**
- **Nausea e vomito** (20-62%)
- **Addome disteso, timpanico, peristalsi ridotta**
- **Stipsi** (50%) o **Diarrea** (25-35%)
- **Sintomi urinari**: disuria, urgenza minzionale, pollachiuria (10-15%)

[Link to UptoDate article](http://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-colonic-diverticular-disease?)
Il trattamento della patologia acuta prevede un iniziale approccio conservativo se si tratta di un caso non complicato:

- **Antibiotici** ad ampio spettro con copertura di gram-negativi ed anaerobi (Cefalosporina / Chinolonico + Metronidazolo)
- **Reidratazione e alimentazione liquida o nutrizione parenterale** a seconda dei casi
- la **Mesalazina** sembra essere efficace nel ridurre la durata della fase acuta.
Loin pain (lumbar)

- Muscle strain
- Urinary Tract Infections
- Renal stones
- Pyelonephritis
Giordano’s sign
AAP: Limitations

- Limitations based on the relationship between:
  - Overlying tenderness
  - Underlying surgical disease

- About 20-30% of intra-operative diagnoses are considered to have had atypical presentations

Staniland, JR, Br Med J 3:393
### Causes of abdominal pain by age of onset

<table>
<thead>
<tr>
<th>Birth to 1 year</th>
<th>2–5 years</th>
<th>6–11 years</th>
<th>12–18 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>Appendicitis</td>
<td>Appendicitis</td>
<td>Appendicitis</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>Constipation</td>
<td>Constipation</td>
<td>Constipation</td>
</tr>
<tr>
<td>Hirschsprung’s disease</td>
<td>Gastroenteritis</td>
<td>Functional pain</td>
<td>Dysmenorrhea</td>
</tr>
<tr>
<td>Incarcerated hernia</td>
<td>Henoch–Schönlein</td>
<td>Gastroenteritis</td>
<td>Ectopic pregnancy</td>
</tr>
<tr>
<td>Infantile colic</td>
<td></td>
<td>Henoch–Schönlein purpura</td>
<td>Gastroenteritis</td>
</tr>
<tr>
<td>Intussuception</td>
<td>purpura</td>
<td></td>
<td>Mittelschmerz</td>
</tr>
<tr>
<td>UTI</td>
<td></td>
<td>Intussuception</td>
<td>Ovarian torsion</td>
</tr>
<tr>
<td>Volvulus</td>
<td></td>
<td>Pharyngitis</td>
<td>PID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sickle cell crisis</td>
<td>(Testicular torsion)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trauma</td>
<td>Threatened abortion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UTI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volvulus</td>
<td></td>
</tr>
</tbody>
</table>

PID: pelvic inflammatory disease; UTI: urinary tract infection.
## Non surgical causes of AAP

### Non-Surgical Abdomen

<table>
<thead>
<tr>
<th>Metabolic Causes</th>
<th>Haematological Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>- <em>D-Ketoacidosis</em></td>
<td>- <em>Haemolytic Crisis of Chronic Haemolytic Anaemia.</em></td>
</tr>
<tr>
<td>- <em>Uremia</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Adreno-cortical Insufficiency</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Hypercalcemia</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Acute Intermittent Porphyria.</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Heavy Metals Poisoning</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Polycythemia.</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Henoch- Schonlelein Purpura.</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Lymphoma.</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Leukemia.</em></td>
<td></td>
</tr>
</tbody>
</table>
Key points on history

• Site of pain
• Nature and character of pain
• Duration
• Precipitating and relieving factors
• Intensity
• Associated symptoms
Classification by nature of pain
Colicky pain

- Severe abdominal pain caused by spasm, obstruction, or distention of any of the hollow viscera, such as the intestines; *the pain comes and goes* …
- Baseline of NO pain in true colic pain …
- Irritable Bowel Syndrome (IBS)
- Bowel obstruction
COLICKY PAIN ??

BILIARY AND RENAL COLIC

BY


Western General Hospital, Edinburgh

Fig. 1.—Biliary colic: 30 cases; renal colic: 17 cases.

Fig. 2.—Fluctuant: biliary colic, 4 cases; renal colic, 21 cases.

Fig. 3.—Maximum intensity at onset; sudden or gradual cessation. Biliary colic, 15 cases; renal colic, 12 cases.

Fig. 4.—Intermittent pain—true "colic." One case of biliary colic; no case of renal colic.
Nagging & Grumblin
(fastidioso, lamentoso)

• Biliary colic
• Cholecystitis
• Pelvic Inflammatory Disease
• Urinary Trait Infections
Stabbing
(coltellata)

- Abdominal Aortic Aneurism rupture
Burning or boring

- Peptic Ulcer
- Oesophagitis
Gnawing
(sordo)

- Pancreatitis
- Pancreatic Ca
Associated symptoms

- Fever
- Genitourinary symptoms
- Gynecological symptoms
- Vascular symptoms
Past medical and surgical history

- Previous episodes of AAP
- Previous investigations
- Previous operations
- Chronic diseases
- Medications (NSAIDs)
- Immunosuppressant
<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>FMF</th>
<th>TRAPS</th>
<th>HIDS</th>
<th>FCAS</th>
<th>MWS</th>
<th>NOMID/CINCA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usual ethnicity</strong></td>
<td>Turkish, Armenian, Arab, Jewish, Italian</td>
<td>Any ethnicity</td>
<td>Dutch, other Northern European</td>
<td>Mostly European</td>
<td>Mostly European</td>
<td>Any ethnicity</td>
</tr>
<tr>
<td><strong>Duration of attacks</strong></td>
<td>12-72 hours</td>
<td>Days to weeks</td>
<td>3-7 days</td>
<td>12-24 hours</td>
<td>2-3 days</td>
<td>Continuous, with flares</td>
</tr>
<tr>
<td><strong>Abdominal</strong></td>
<td>Sterile peritonitis, constipation</td>
<td>Peritonitis, diarrhea or constipation</td>
<td>Severe pain, vomiting, diarrhea, rarely peritonitis</td>
<td>Nausea</td>
<td>Abdominal pain</td>
<td>Not common</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td>Common</td>
<td>Common</td>
<td>Rare</td>
<td>Not seen</td>
<td>Rare</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Arthropy</strong></td>
<td>Monoarthritis, rarely protracted arthritis in knee or hip</td>
<td>Arthritis in large joints, arthralgia</td>
<td>Rare</td>
<td>Uncommon</td>
<td>Conjunctivitis</td>
<td>Conjunctivitis</td>
</tr>
<tr>
<td><strong>Polyarthritis</strong></td>
<td>Polyarthralgia, oligoarthritis, clubbing</td>
<td>Epiphyseal overgrowth, contrac-tures, intermittent or chronic arthritis, clubbing</td>
<td>Rare</td>
<td>Uncommon</td>
<td>Conjunctivitis</td>
<td>Conjunctivitis</td>
</tr>
<tr>
<td><strong>Cutaneous</strong></td>
<td>Erysipelas erythema on lower leg, ankle, foot</td>
<td>Libratory rash, underlying myalgia</td>
<td>Diffuse maculopapular rash, urticaria</td>
<td>Cold-induced urticarial rash</td>
<td>Urticaria-like rash</td>
<td>Urticaria-like rash</td>
</tr>
<tr>
<td><strong>Ocular</strong></td>
<td>Rare</td>
<td>Conjunctivitis, periorbital edema</td>
<td>Uncommon</td>
<td>Conjunctivitis</td>
<td>Conjunctivitis, episcleritis</td>
<td>Uveitis, conjunctivitis, progressive vision loss</td>
</tr>
<tr>
<td><strong>Neurologic</strong></td>
<td>Rarely aseptic meningitis</td>
<td>Rare</td>
<td>Controversial</td>
<td>Headache</td>
<td>Headache</td>
<td>Sclerosing encephalitis, sensorineural deafness, mental retardation, headache</td>
</tr>
<tr>
<td><strong>Lymphatic</strong></td>
<td>Splenomegaly, occasional lymphadenopathy</td>
<td>Splenomegaly, occasional lymphadenopathy</td>
<td>Cervical adenopathy in children</td>
<td>Not seen</td>
<td>Rare</td>
<td>Hepatosplenomegaly, adenopathy</td>
</tr>
<tr>
<td><strong>Vasculitis</strong></td>
<td>Henoch-Schönlein purpura (HSP), polyarteritis nodosa</td>
<td>HSP, lymphocytic vasculitis</td>
<td>Cutaneous vasculitis common, rarely HSP</td>
<td>Not seen</td>
<td>Not seen</td>
<td>Occasional</td>
</tr>
<tr>
<td><strong>Systemic amyloidosis</strong></td>
<td>Risk depends on MEFV and SAA genotypes, more common in Middle East</td>
<td>Occurs in ~10%, risk increased with cysteine mutations</td>
<td>Rare</td>
<td>Rare</td>
<td>Occurs in ~25%</td>
<td>May develop in some patients, usually in adulthood</td>
</tr>
</tbody>
</table>
Physical examination

• OBS are important

• Observation
  – Bending Forward: Chronic Pancreatitis
  – Jaundiced: CBD obstruction
  – Dehydrated: Peritonitis, Small Bowel obstruction (third space)
Systemic Examination

Inspection:

- Flat in peptic ulcer
- Distended in ascites or intestinal obstruction
- Visible peristalsis in thin or malnourished patients with bowel obstruction
Systemic Examination

Palpation:

- **Check for hernia sites!**
- Tenderness
- Rebound tenderness (**Blumberg**)
- Involuntary spasm of muscles during palpation
- Rigidity: when abdominal muscles are tense and board-like - peritonitis.
Systemic Examination

- **Local Right Iliac Fossa tenderness:**
  - Acute appendicitis
  - Acute Salpingitis in females
- **Low grade, poorly localized tenderness:**
  - Intestinal Obstruction
- **Tenderness out of proportion to examination:**
  - Mesenteric Ischemia
  - Acute Pancreatitis
- **Flank Tenderness:**
  - Perinephric Abscess
  - Retrocaecal Appendicitis
# Signs in Patients with Abdominal Pain

<table>
<thead>
<tr>
<th>Sign</th>
<th>Finding</th>
<th>Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cullen's sign</td>
<td>Bluish periumbilical discoloration</td>
<td>Retroperitoneal haemorrhage</td>
</tr>
<tr>
<td>Kehr's sign</td>
<td>Severe left shoulder pain</td>
<td>Splenic rupture</td>
</tr>
<tr>
<td><strong>McBurney's sign</strong></td>
<td>Tenderness located 2/3 distance from anterior iliac spine to umbilicus on right side</td>
<td>Ectopic pregnancy rupture</td>
</tr>
<tr>
<td><strong>Murphy's sign</strong></td>
<td>Abrupt interruption of inspiration on palpation of right upper quadrant</td>
<td>Acute cholecystitis</td>
</tr>
<tr>
<td>Ileopsoas sign</td>
<td>Hyperextension of right hip causing abdominal pain</td>
<td>Appendicitis</td>
</tr>
<tr>
<td>Obturator's sign</td>
<td>Internal rotation of flexed right hip causing abdominal pain</td>
<td>Appendicitis</td>
</tr>
<tr>
<td>Grey-Turner's sign</td>
<td>Discoloration of the flank</td>
<td>Retroperitoneal haemorrhage</td>
</tr>
<tr>
<td>Chandelier sign</td>
<td>Manipulation of cervix causes patient to lift buttocks off table</td>
<td>Pelvic inflammatory disease</td>
</tr>
<tr>
<td><strong>Rovsing's sign</strong></td>
<td>Right lower quadrant pain with palpation of the left lower quadrant</td>
<td>Appendicitis</td>
</tr>
</tbody>
</table>
Blumberg's sign

Figure 9.3
Rebound (a) hand down (b) hand up.
Psoas sign

Hyperextension of right hip causing abdominal pain

Obturator sign

Internal rotation of flexed right hip causing abdominal pain
Physical examination

Auscultation

- Boul Sounds
  - > 1 min to confirm it is absent (!)
  - High pitched, hyperactive or tinkling
  - Bruit in epigastrium
Systemic Examination

Per Rectal Examination:

- tenderness
- indurations
- mass
- frank blood, melena
Systemic Examination

Per Vaginal Examination:

- Bleeding
- Discharge
- Cervical motion tenderness
- Annexal masses or tenderness
- Uterine size or contour
Initial management of APP

• In the first minutes, there are 3 only diagnoses:
  – **Very ill:**
    • Going to die?
    • ABC
  – **Simply ill:**
    • Stable for at least 2 h?
    • Urgent investigations, initial diagnosis and management
  – **Reasonably well:**
    • Investigate as appropriate
    • Formulate a diagnosis
Investigations

- FBC (Hb and WCC), CRP
- Amylase, Lipase
- Urea, electrolytes, Liver Function Tests
- Clotting (acute pancreatitis, sepsis, CID, liver disease)
- Glucose
- ABG
- EKG
- Cardiac enzymes (when appropriate)
Investigations

Urinalysis

– Cheap
– Simple and readily available test
– High yield when results fit with the clinical scenario
– Mid Stream Urine

• Pregnancy test!
Investigations

Radiology

- Erect Chest XR
- Supine Abdomen XR
- Ultra Sounds (gynae pathology)
- Intra Venous Urography (renal/ureteric colic)
Investigations

Plain X-rays have limited utility in the evaluation of AAP:

– Low diagnostic yield
– High incidence of misleading incidental findings
– Lack of impact on management
– **Exception:** Bowel obstruction or perforation
Investigations: X-ray
CT scanning

- No significant advantage in DD of AAP
- Delay of necessary treatment
- Routine use not justified
- Hist. taking & physical examination are the basis of correct diagnosis

- Hist., physical examination & Lab investigations are often non-specific
- **CT is now 1st-line imaging modality in pts with AAP.**
- MDCT is now faster with thinner slices
- **High diagnostic accuracy**


Laparoscopy

• Early **diagnostic laparoscopy** may result in:
  – **accurate**
  – **prompt**
  – **efficient management of AAP**

• Reduces the rate of unnecessary laparotomy
• Increases the diagnostic accuracy
• May be a key to solving the diagnostic dilemma of Acute non specific acute pain.

- Rebound tenderness, considered the clinical indicator of peritonitis, has a **25% false rate**

- Administration of analgesics prior to surgical consultation **does not obscure** the diagnosis, but improves accuracy

Bennett, DH Br Med J 308:1336, 1994
• Do not restrict the diagnosis solely by the **location** of the pain.
• Consider **appendicitis** in all patients with abdominal pain and an appendix, especially in patients with the presumed diagnosis of gastroenteritis, PID or UTI.
• Do not use the presence or absence of **fever** to distinguish between surgical and medical causes of abdominal pain.
• The **WBC count** is of little clinical value in the patient with possible appendicitis.
• Any woman with childbearing potential and abdominal pain has an **ectopic pregnancy** until her pregnancy test comes back negative.
• **Pain medications** reduce pain and suffering without compromising diagnostic accuracy.
• An **elderly patient** with abdominal pain has a high likelihood of surgical disease.
• Obtain an **EKG in elderly patients** and those with cardiac risk factors presenting with abdominal pain.
• A patient with **appendicitis** by history and physical examination does not need a CT scan to confirm the diagnosis.
• The use of abdominal ultrasound or CT may help evaluate patients over the age of 50 with unexplained abdominal or flank pain for the presence of AAA.