

## Management of acute abdomen

The term acute abdomen generally refers to previously undiagnosed pain that arises suddenly and is of less than 7 days (usually less than 48 hrs) duration.

### The assessment steps are as follow:

#### \*Obtain clinical history:

- Assess the mode of onset, duration, frequency, character, location, chronology, radiation and intensity of pain.
- Look for aggravating or alleviating factors and associated symptoms.
- Use structured data sheets if possible.

#### Generate the differential diagnosis

- Remember that the majority of patients will turn out to have non surgical diagnosis.
- Take into account the effect of age and gender on diagnostic possibilities.

#### Perform physical examination:

- Evaluate the general appearance and ability to answer questions.
- Estimate degrees of obvious pain.
- Note the position in bed.
- Identify area of maximal pain.
- Look for extra abdominal cause of pain and signs of systemic illness.
- Perform systemic abdominal examination: inspection, palpation, percussion & auscultation.
- Perform rectal, genital & pelvic examination.

#### Perform basic investigative studies.

**Laboratory:** Complete blood count, hematocrit, electrolytes, blood urea, creatinine, glucose, liver function test, amylase, lipase, urinalysis, pregnancy, test, ECG (if is elderly or has atherosclerosis).

**Radiological:** plain abdominal film (up right and supine) & Chest radiograph.

**Note:** the above studies are not necessarily diagnostic by themselves, their purpose is primarily confirmatory.

**Generate working diagnosis**

- Proceed with subsequent management on the basis of the working diagnosis.
- Reevaluate the patient repeatedly. If patients dose not response to treatment as expected, reassess working diagnosis and return to differential diagnosis.
- Once this working diagnosis has been established, subsequent management depends on the accepted treatment for the particular condition believed to be present. In general, the course of management follows four basic pathways depending on whether the patient:
  - 1) Is in need of immediate laparotomy?
  - 2) Is believed to have an underlying surgical condition?
  - 3) Has an uncertain diagnosis?
  - 4) It believed to have an underlying non surgical condition?

**First group` : Patients requires immediate laparotomy**

- Conditions necessitate immediate laparotomy include:
  - a) Ruptured abdominal aortic or visceral aneurysm.
  - b) Ruptured ectopic pregnancy.
  - c) Major blunt or penetrating abdominal trauma.
  - d) Hemopertoneum from various causes.
  - e) Severe haemodynamic instability is the essential indication.

**Second group: Patient has suspected surgical problem**

**Determine whether urgent laparotomy is necessary and as follow:**

**Patient requires urgent laparotomy or laparoscopy**

**Conditions necessitate urgent laparotomy or laparoscopy may include:**

- Perforated hollow viscus.
- Appendicitis.
- Meckle's diverticulitis.
- Strangulated hernia.
- Mesenteric ischemia.
- UN ruptured ectopic pregnancy.

Laparoscopy is recommended for acute appendicitis and perforated ulcers (provided that surgeon has sufficient experience with the technique).

- **Patient should be hospitalized & Observed**

If the patient doesn't need urgent laparotomy or laparoscopy, then observe the patient in hospital carefully & re evaluate the condition periodically. Consider additional investigative studies (e.g. CT scan, ultrasonography, DPL, radionuclide, imaging,

- angiography, MRI & Gastrointestinal endoscope)
- Diagnostic laparoscopy is recommended if pain persist after a period of observation.

**Those who are hospitalized and observed carefully are classified into three groups:**

**1)** Those who requires early laparotomy or laparoscopy.

This is reserved for patients whose conditions are unlikely to become life threatening if operation is delayed for 24-48 hrs. (e.g. those with uncomplicated intestinal obstruction, uncomplicated acute cholecystitis, uncomplicated acute diverticulitis or non strangulated incarcerated hernia).

**2)** Patient who is candidate for elective laparotomy or laparoscopy. This is reserved for patients who are highly likely to respond to conservative medical management or whose conditions are highly unlikely to become life threatening during prolonged evaluation (e.g. peptic ulcer disease, pancreatitis or endometriosis).

**3)** Diagnosis is uncertain or the patient has suspected non –surgical problem. Here re evaluate the patient as appropriate.

**Third group: Patient has uncertain diagnosis**

If the patient has uncertain diagnosis, determine whether he or she should be hospitalized or can be managed as an out patient.

- **Patient should be hospitalized and observed**

- Here, provide narcotic analgesia as appropriate.
- Observe the patient carefully and re-evaluate the condition periodically.

- Consider additional investigative studies. CT and ultrasound may be especially useful.
- If the patient has suspected surgical problem  $\Rightarrow$  re-evaluate the patient as appropriate & as above.
- If the patient has uncertain diagnosis  $\Rightarrow$  re-evaluate the patient as appropriate & as mentioned above.

Also, the patient can be evaluated in out patient setting.

**Fouth group: Patient has suspected non-surgical problem**

Non surgical conditions causing acute abdominal pain include both extra peritoneal and intra peritoneal disorders.

The patient should be hospitalized and observed. Provide narcotics analgesia as appropriate. Observe the patient carefully & re-evaluate the condition periodically.

Consider additional investigative studies.

- If the diagnosis is uncertain or the patient has suspected surgical abdominal, re-evaluate the patient as appropriate as mentioned above.
- If the diagnosis is non surgical, refer the patient for medical management.

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