INTESTINAL OBSTRUCTION

Intestinal Obstruction

- One of the common cause of acute abdomen
- May lead to high morbidity and mortality if not treated correctly
- It can be classified into two types:
  - (mechanical)
  - non- mechanical

Intestinal Obstruction

- **mechanical:** where peristalsis is working against a mechanical obstruction.

- **Non-mechanical:** mechanical element is absent
  - Peristalsis my be absent(paralytic ileus)
  - May be present in non propulsive form. (mesenteric vascular occlusion or pseudo-obstruction)

Mechanical Obstruction

1. **Intraluminal:** impacted faeces, foreign bodies, gallstones, Bezoars.

2. **Intramural:** tumors, inflammatory strictures,

3. **Extramural:** adhesion, hernias, volvulus, intussusception, tumors

Mechanical Obstruction

1. **Small** bowel obstruction (SBO)
   -high ->early perfuse vomiting
   rapid dehydration
   -low->predominant pain, and central distention
   Vomiting delayed
   multiple central air-fluid levels seen on AXR

2. **Large** bowel obstruction (LBO)
   early pronounced distension, mild pain
   vomiting, dehydration late
   e.g. -carcinoma
   -diverticulitis or volvulus

Intestinal Obstruction

- Simple: blockage without interfering with vascular supply
- Strangulation: significant impairment of blood supply most commonly associated with hernia, volvulus, intussusception, mesentric infarction, adhesions/Bands

  -surgical emergency
- Closed loop obstruction: bowel is obstructed at both the proximal and distal end.

Causes

- Adhesions- 40%
- Tumors -15%
- Inflammatory- 15%
- Obstructed hernia-12%
- Intraluminal-10%
- Miscellaneous -8%

Pathophysiology

Proximal to obstruction

Increased fluid secretion → abdominal distention

Accumulation of gas → abdominal distention

Increased intraluminal pressure

Vomiting

Dehydration

Dilatation of bowel

Reflex contraction of smooth muscle → colicky pain

Increased peristalsis to overcome obstruction → increased bowel sounds

If obstruction not overcome → bowel atony

Decreased reabsorption with time and flaccidity to prevent vascular damage from high pressure

Distal to obstruction: nothing is passed & bowel collapse → constipation

Symptoms

The four cardinal features of intestinal obstruction:

-abdominal pain

-vomiting

-distension

-constipation

Vary according to:-

location of obstruction

Duration of obstruction

underlying pathology

intestinal ischemia

Symptoms

In strangulation:

- severe constant abdominal pain
- fever
- tachycardia
- tenderness with rigidity/rebound tenderness.
- shock

Signs

General examination-

Vital signs

Signs of dehydration –tachycardia, hypotension

dry mucus membrane, decreased skin turgor, decreased urine output

Inspection

distension, scars, peristalsis, masses, hernial orifices

Palpation

tenderness, masses, rigidity

Percussion

tympanitic abdomen

Auscultation

high pitched bowel sound or silent abdomen

*Examine rectum for mass, blood, feces or it may be empty in case of complete obstruction

Investigations

- CBC, High WBC (neutrophilia with strangulation)
- Hyper kalemia, hyperamylasemia & raised LDH may be associated with stangulation.
- Plain AXR
- Sigmoidoscopy (only in carcinoma, volvulus)
- Contrast x-ray
- CT abdomen.

Management

- NPO
- NG tube decompression
- IV rehydration
- Monitoring In’s and Out’s
- IV antibiotics
- Frequent clinical assessments

Management

- Some cases will settle by using this conservative regimen, other need surgical intervention.
- Surgery should be delayed till resuscitation is complete unless signs of strangulation and evidence of closed-loop obstruction.
- Cases that show reasons for delay should be monitored continuously for 72 hours in hope of spontaneous resolution e.g. adhesions with radiological findings but no pain or tenderness
- “The sun should not both rise and set” in cases of unrelieved obstruction.

Management

Indication for surgery:

- Virgin abdomen. (No previous surgery)
- failure of conservative management
- tender, irreducible hernia
- strangulation