Intestinal Obstruction

Restriction to the normal passage of intestinal contents

or

Luminal intestinal contents can't pass through

or

Failure of propulsion of intestinal contents

CLASSIFICATION

- Type
- Onset
- Level
- Nature

1. Dynamic or mechanical where peristalsis is working against a mechanical obstruction.
2. Adynamic or paralytic where the mechanical element is absent and may occur in two forms:

Peristalsis may be absent (paralytic ileus) or non-propulsive form (mesenteric vascular occlusion or pseudo obstruction).

NATURE OF PRESENTATION

ACUTE

CHRONIC

ACUTE ON TOP OF CHRONIC

- High or Low
- Proximal or Distal
- Small or Large bowel

- SIMPLE
- COMPLICATED

- CAUSES FROM OUTSIDE THE WALL
- CAUSES FROM THE WALL
- CAUSES IN THE LUMEN

DYNAMIC(MECHANICAL)
FROM THE WALL

1- TB

2- CROHN'S

3- TUMORS

4-STICTURE

5- CONGENITAL .....

MECHANNICAL IN THE LUMEN

1- GALL STONES

2- F.B

3- BEZOARS

4- WARMS

5- FECES .....

MECHANICAL

EXTRALUMINAL

1- BANDS

2- ADHESIONS

3- ABSCESS

4- HERNIAS

5-COMPRESSION

Adynamic Intestinal Obstruction.

1- Peritonitis

2- Electrolytes' Imbalance

3- Postoperative

4- Ischemia

5- Drugs

6- Retroperitoneal causes...

-ABD. PAIN, DISTENTION, VOMITING ,CONSTIPTION

- DEHYDRATION & LOSS OF SKIN TURGOR

- TACHYCARDIA & HYPOTENTION

- INCREASED OR ABSENT BOWEL SOUNDS

- TENDERNESS ,REBOUND OR GUARDING

- RECTUM SOMETIMES EMPTY

MECHANICAL OBSTRUCTION WHERE PERISTALSIS WORKS AGAINST OBSTRUCTION

SMALL INTESTINE

-ADHESIONS &

- EXTERNAL HERNIAS (both are more than 75% of cases)
- CROHN'S, TB, TUMORS, INTUS., CONGENITAL.....

LARGE INTESTINE

- TUMORS &
- VOLVULUS (both are 90% of cases
- DIVERTIDULITIS (rare)
- ADHESIONS (extremely rare if at all)

AGE

BIRTH : Atresia, Meconium Volvulus,Hirschsprung's

3 WEEKS : Pyloric stenosis

6-9MONTHS : Intussusception

TEENAGE : Appendicitis , Meckel's diverticulitis

YOUNG ADULT : Adhesions , Hernia

ADULT : Adhesions , Hernia, Appendicitis, Crohn's, Carcinoma

ELDERLY : Carcinoma, Diverticulitis, Sigmoid Volvulus , Feces

THE OBSTRUCTION COULD BE :

- Simple
- Closed loop
- Strangulated

SIMPLE OBSTRUCTION :

1-ABOVE THE OBSTRUCTION

OBSTRUCTION → Peristalsis increases → Intstine dilates → Reduction in peristaltic strength → Flaccidity and paralysis (protective but late)

2- BELOW THE OBSTRUCTION

NORMAL PERISTALSIS & ABSORBTION → Until it becomes empty → It contracts & becomes immobile

Distention of the intestine is caused by accomulation of:

1- GAS

2- FLUIDS

Fluids come from :

1. Ingested fluids
2. Saliva
3. Gastric and intestinal juice
4. Bile & Pancreatic secretions

Dehydration caused by :

1. Reduced intake
2. Reduced absorption
3. Increased loss (Vomiting & sequesration)

Systemic Effects of Obstruction :

1. Water and electrolyte losses (lead to hypovolemia)
2. Toxic materials and toxemia(lead to sepsis)
3. Cardiopulmonary dysfunction(
4. Renal failure
5. Shock and death

Strangulation leads to impaired venous return → Increased congestion →

- -free peritoneal fluid
- -edema of intestinal wall
- -blood in the lumen
- -impaired arterial blood supply
- -ischemia and gangrene

Pathophysiology:

(1) Proximal segment

- Hyperperistaltic phase
- Antiperistaltic phase
- Stage of dilatation
- Fluid accumulation
- Gas accumulation
- Increased tension
- Ischemia

(2) Distal segment

Collapsed

Either localized or generalized

Small intestine

- Postoperative
- Intra-abdominal abscess or peritonitis
- Mesenteric embolism or thrombosis

Large intestine

- Retroperitoneal hematoma
- Drugs
- Hypokalemia
- Idiopathic

- History
- Clinical examination

- Pain
- Distention
- Vomiting
- Constipation and obstipation

- In small bowel obstruction is central & colicky
- In large bowel obstruction is dull & peripheral
- In strangulation is continuous & severe
- In paralytic ileus is absent

VOMITING

Time of onset :

Early: High small bowel obstruction

Late: Low small bowel obstruction

Delayed or absent: Large bowel obstruction

Nature of vomitus

Clear gastric: Pyloric obstruction

Bilious: High small bowel obstruction

Feculent: Low small bowel obstruction or late colonic

CONSTIPATION

- Incomplete
- Complete (Obstipation)

DISTENTION

- High obstruction: Little and central distention if at all
- Low obstruction: Great distention to the whole abdomen

EXMINATION

Inspection: dehydration, distention, visible peristalsis, hernias, scars

Palpation: mases, tenderness, guarding, rigidity, obstructed hernia

Percution: tympani, tenderness

Auscultation: frequent, (high pitched), , absent

Digital rectal examination: impaction, masses, blood, empty rectum

- Plain abdominal X-ray : → erect & supine
- CT Scan
- CBC
- KFT

LATE MANIFISTETIONS

- Oliguria.
- Dehydration: dry tongue & skin, sunken eyes and poor venous filling
- Hypovolemic shock
- Fever
- Respiratory embarrassment
- Peritonism

RADIOLOGICAL PICTURE

- ***Small Bowel Obstruction***
  - Central distention (GAS)
  - Valvulae conniventes
  - "Ladder-like dilatation"
  - Small diameter
- ***Large Bowel Obstruction***
  - Peripheral distention "Picture frame"
  - More gross distention
  - Haustral indentation & large diameter

(Red Flags)

- Constant pain
- Absent bowel sounds
- Tenderness with rigidity
- Leukocytosis
- Fever and tachycardia
- Shock

MANAGEMENT OF ACUTE CASE (Plan)

- I.V Fluids and electrolytes rescusitation for all
- N.G tube if repeated vomiting
- Antibiotics
- Hernia → Operation
- Adhesions → Conservative first
- Obstruction → Remove
- Volvulus → Derotate and or Operate
- Mesenteric ischemia → Operate
- Abscess or Peritonitis → Drain and Treat
- Intussusception → Pneumatic or Barium Reduction or Operate