Surgical affections of the Intestine (5th theory surgery) lecture 5

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Intestinal obstruction:

It is any hindrance to the passage of the intestinal contents. Causes may be mechanical or neural or both. Some of the more common mechanical causes are hernia, adhesions of the peritoneum, volvulus, intussusception, malignant or benign tumor, congenital defect, and local inflammation. Also failure of peristalsis, heavy metal poisoning, infection, and spinal injury.

It is complete or partial blockage of fluid and food flow through the small intestines. During obstruction, blood supply to the GI tract can become dangerous, leading to necrosis (death) of intestinal tissue and possible perforation. Bacteria from the bowels can spill into the abdominal cavity causing septic peritonitis. Obstruction can be deadly if not caught and treated early. Emergency surgery is often required to remove the obstruction and any dead tissue.

Symptoms

- Vomiting
- Anorexia
- Gastric reflex
- Straining during bowel movements
- Diarrhea
- Inability to defecate
- Abdominal bloating
- Abdominal pain
- Dehydration
- Intestinal distension and fluid reflex

Classification of intestinal obstruction:

1. **According to severity:**
   a) **Chronic partial obstruction:** which result from any physical or functional abnormality which slows the passage of digesta to any degree along any portion of small intestine over a prolonged period time.
   b) **Acute complete obstruction:** which result from displacement, obstruction, compression, stenosis or stricture.


Fig 2

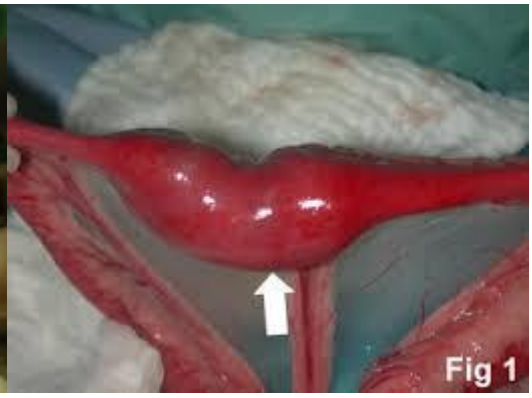


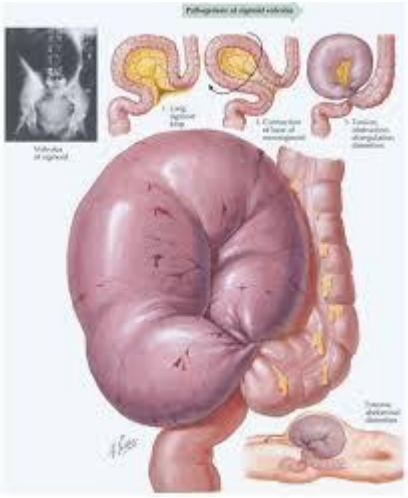
Fig 1

2. According to forms:

a) Volvulus (Torsion)

This is an acute obstruction caused by rotation of a segment of intestine around its mesenteric axis, its longitudinal or transverse axis or an axis composed of another intestine coil and its mesentery.

Causes



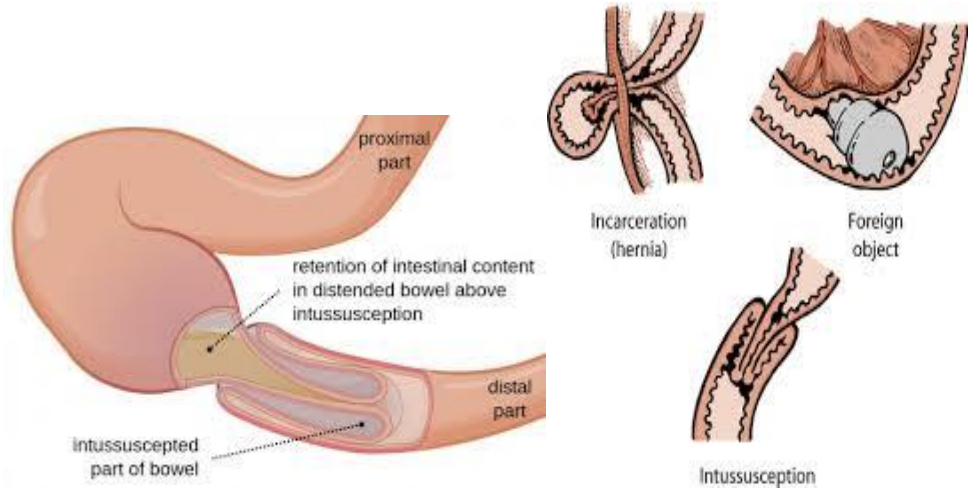
- Predisposing anatomical causes include long mesentery of the ileum and the free portion of the colon in equine.
- Indigestion associated with colic.
- Irregular peristalsis.
- Unequal filling of the bowel.
- Rolling and violent movement (colic).

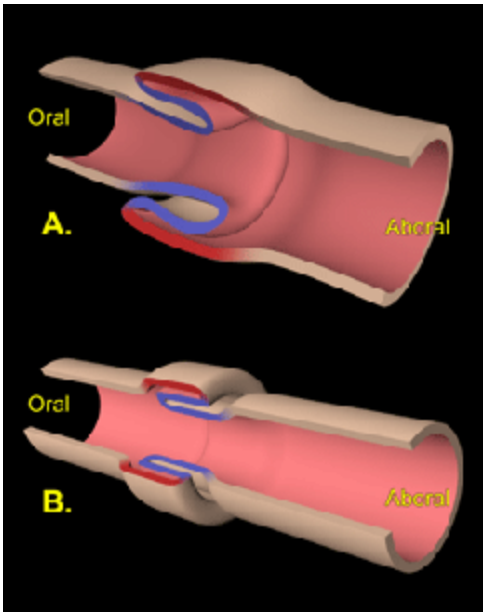
b) Incarceration:

External abdominal hernia occurs when abdominal organs or tissues leave their normal anatomic site and protrude outside the skin through the congenital or acquired weakness, defects or holes on the abdominal wall, including inguinal hernia, umbilical hernia and femoral hernia. Acute incarcerated hernia is a common surgical emergency.

c) Intussusception:

Intussusception describes a condition in which one segment of the intestine invaginates into the lumen of an adjacent segment of intestine.





Intussusceptions are most commonly associated with some problem that causes inflammation of the intestine (enteritis). Common causes of enteritis are:

- intestinal parasites (hookworms, whipworms, and roundworms)

- protozoa, bacterial or viral infections (Giardia, Salmonella, canine distemper, and parvovirus)
- Intestinal foreign bodies (bones, plastic toys, etc.)
- Intestinal masses (tumors)
- A surgical procedure performed on the intestine

d) Stricture

Stricture occurs when scar tissue obstruct the free passage of bowel movements. This can arise most likely from causes of neoplasia, (abnormal or tumor growth), injury from wounds from foreign objects (such as wounds or a bite mark) or from the swallowing of indigestible objects (bones and toys), and severe inflammation, causing distress and pain.

3. According to causes:

a) Vascular obstruction:

Arise from thrombi in the arterial supply or venous drainage from a segment of intestine. This lead to ischemia, infraction and paralysis of intestinal segment and inability to contract which result in functional obstruction.

b) Mechanical obstruction:

Are result of partial or complete obstruction of the lumen due to intraluminal masses or compression of the bowel wall.

c) Neurogenic obstruction:

Characterized by interference with the nervous control of motility.

That due to :

- Absence or degeneration of autonomic ganglia.
- Compression on the celiac plexus resulting in stasis and obstruction of the large intestine.

d) Volvulus and strangulation:

e) Dilation and torsion of cecum:

Complications

Treatment is essential to reduce complications such as:

- dehydration
- electrolyte imbalances
- perforation in intestines, which leads to infections
- kidney failure

Treatment:

Surgical removal of the cause of obstruction is necessary in cases of complete obstruction. If there is no evidence of strangulation of the bowel, the surgeon may choose to postpone surgery until dehydration and shock have been overcome and a normal electrolyte balance is restored. The type of surgical procedure performed depends on the cause of the obstruction and whether or not the intestine is gangrenous. In some cases a colostomy may be necessary along with removal of the damaged portion of the bowel. A surgical incision into the cecum with insertion of a drainage tube (cecostomy) may be done when intestinal intubation is not successful in relieving distention.