SMALL INTESTINE

* Pylorus to ICJ
* ≃ 6 m long > in ♂
  a) Fixed part – Duodenum (25 cm long)
  b) Mobile part < Jejunum 2/5 part
  Ileum 3/5 part

Physiologically adapted for digestion ← absorption

Relevant features

* Large surface area – for absorption
  ↑ Folds, Villi
* Intestinal glands
* Lymphatic follicles
* Arterial supply – SMA
* Lymphatics – circular course
* N. Supply – Sympathetic & parasympathetic (Vagus)
  (T9 – 11)

SMALL Intestine

Diverticulosis

Incidence → 1% in autopsy series
→ Solitary
→ Multiple
Primarily in jejunum

Site :- Mesenteric border

Causes ← Pulsion mucosal herniation
← Muscle coat defect
← Congenital

Complications :- Symptomless - majority
→ Diverticulitis & Perforation
→ Haemorrhage
→ Obstruction
→ Metabolic - blind loop syndrome ← Diarrhoea, Steatorrhoea, Anaemia, Vit Def.

Diagnosis Incidental
Ba Meal follow thru

Treatment :- Resection of part of intestine bearing diverticula & EEA.

Meckel's Diverticulum

Incidence 0.3 to 2.5% (autopsy series)

Failure of all or a portion of vitelline duct to obliterate result in this condition.

Size 1– 26 cm (3-5 cm)
10– 150 cm from ICJ

Complications

Diverticulum lining is same of ileum but heterotrophic mucosa may be present

1. Peptic ulcer group
2. Inflammatory group
3. Obstructive group – intussception, volvulus adhesions, bands, fibrous cord, foriegn bodies
4. umblical group – fistula, cyst, granuloma
5. Tumor group

Clinical Presentation

Mostly Incidental finding

→ Ac Appendicitis
→ Haemorrhage
→ Inflammation
→ obstruction
→ Litter's Hernia

Diagnosis: BMFT

Treatment:-

Resection

Intestinal Infections

Amoebiasis

E. histolytica

* Universal

Pathology

Ulceration in intestinal mucosa

Ulcers :- → Bottle Necked & undermined edges
→ Floor - Necrotic & blood & pus
→ 75% cases - Rectum & Sigmoid colon
→ 25% cases - Scattered

Bx :- Scrapings by Volkmann's spoon
(Thin slice of affected mucosa)
Positivity does not mean that symptoms are due to this organism (non pathogenic)

Clinically :-

* Dysentry
* Appendicitis / Amoebic typhilitis
  * Tenderness on Caecum & Sigmoid
  * Rarely Rigidity
* Perforation - Caecum / Rectosigmoid
* Haemorrhage → Sloughing
* Granuloma - Progressive invasion & secondry inflammation (D/D Ca)
* Stricture

* Intestinal Obstruction
* Paracolic Abscess
* Ulcerative colitis

Rx

Metronidazole - 800 mg tds
Tinidazole — 400 mg tds
Emetine hydrochloride 60mg OD SC
Diloxanide furoate
Secnidazole.

Typhoid

Salmonella infection

Presentation

1. Ileus
2. Haemorrhage
3. Perforation (3rd wk)
   * Lower ileum

Drugs of choice

→ Quinolone Derivative
→ Ampicillin
→ Bactrim DS
→ Chloromycetin
→ Third Generation cephalosporins

Tuberculosis

1. Ulcerative Type

* Secondary to Pulm. Koch's – ingestion
* Multiple ulcers in terminal ileum (Long axis lying transversely)
* Corresponding serosa thickened / tubercles
* Perforation – Rare
* Stricture – common

Clinically

Diarrhoea
Loss of wt
Stool – Fetid odour ± pus & blood
Pulm. TB

Barium study – Terminal ileum, Caecum, Asc. colon does not fill completely due to narrowing & hypermotility

Rx :- ATT
Surgery for Stricture

11 Hyperplastic TB

* ICJ
* High Resistance to disease.
* Starts in lymphoid follicles
  ↓
  Submucus
  ↓
  Subserous

* Thickening of Intestinal wall
↓
Narrowing of lumen
* Regional L-Nodes involvement & Caseation
* Abscess & fistula formation rare
* SAIO or Ac. Obst.

Clinically :- * Abd. Pain & Diarrhoea (Blind loop syndrome) Steatorrhoea, Anemia, Wt. Loss
* Mass in RIF

Radiological features On Barium

* Contracted, pull up Caecum (Subhepatic) Conical
* ICJ angle → obtuse
* Narrow terminal ileum
* Incompetent IC valve
* Shortening of Ascending colon.

Rx

→ ATT Early cases
→ Surgery — Obstruction
* Ⓡ Hemicolectomy
* Limited IC resection
* Ileostomy in very sick pt.

Hirschsprung's Disease

Congenital aganglionic megacolon

→ Neurogenic form of intestinal obstruction

→ Absence of ganglion cells in myenteric (Auerbach and submucosal (Meissner's plexus)

→ Absence of submucosal & intermuscular N. plexi

→ ↑ in size & prominence of N. fibres

→ Sudden transition from aganglionic to ganglionic segment

→ Extent varies

Clinical Presentation

* Doses mostly in neonatal period
* Delay in passage of meconium
* Complete obstruction ē distension — Relieved spontaneously or ē enema

In older Children :- Infrequent stools
Marked abd. distension
Poor nutrition
Faecoliths
Faecal soiling
Anal pain & bleeding

Serious Complications

Enterocolitis — watery / bloody stool

Cause — stasis, bacterial proliferation
Clostridium difficile
↓
Perforation, Septicemia, death
Mortality 25%

Diagnosis :-

Plain x-Ray — colonic distension
— Absence of air in rectum

Contrast Enema — Transition Zone
Colon dilated above zone
Total colonic aganglinonis — microcolon

Confirmation By Bx — rectal submucosal
to see for ganglion cells

D/D Meconium plug / Ileus
Atresia

Treatment

Excision of Entire aganglionic cell segment
Initial Rx — Stoma — transverse colon
Modified Duhamel operation
Abdominal Pull thru
Coloanal anastomosis
Ileoproctostomy.