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Neonatal Intestinal obstruction
introduction

99% of healthy full-term infants pass their first stool or meconium within 24 hours of birth.

All healthy term neonates should do so by 48 hours.

With preterm infants the length of time can extend up to 9 days.
Is it important?

One of the commonest diagnosis.

Delay may lead to:

- dehydration & hypovolemia.
- respiratory complications.
- metabolic acidosis.
- perforation/ gangrene.
- septicemia.
CAUSES:

pathophysiological

abnormal intestinal contents.

intrinsic developmental defects

abnormalities of peristalsis.
Clinically high:
- Duodenal obstruction (atresia, stenosis, anular pan.)
- Malrotation and volvulus.
- Jejunal atresia.

Clinically low:
- Meconium plug syndrome.
- Anorectal malformations.
- Hirschsprung disease & NID.
- Small left colon syndrome.
- Colonic atresia.
- Meconium ileus.
Evaluation of neonatal intestinal obstruction

History and clinical examination.

Investigation

Treatment
History
examination
Plain abdominal x-ray

? High or low
Upper intes. Obstruction
Lower intest. obstruction
Ba enema
D A presents with bilious vomiting shortly after birth (1-2 days). Scaphoid abdomen, epigastrial fullness.

Diagnosis: "double bubble".

Management: duodenoduodenostomy.
Malrotation

**Clinical Presentation:**

- Sudden onset of bilious emesis
- Abdominal distention is common but may be absent.
- Abdominal tendernessness varies.
- On rectal examination, stool, if present, is guaiac positive.
MALROTATION

Midgut volvulus with necrosis is *disasterous*

Must consider in *every* infant with bilious emesis.

30% present within first week of life.

50% within first month.
Malrotation

- **Surgical Management:**

  **Ladd’s procedure**
Ileal and Jejunal Atresia

Etiology:

Associated Conditions:

low birth weight (40%)

low incidence of other anomalies are noted. Small bowel atresia is associated with meconium ileus.
• Clinical Presentation:
• Diagnosis:

• Management:
• Laparotomy: with resection of the proximal dilated end.
  End-to-end anastomosis.
Ileal and Jejunal Atresia
Meconium Ileus

incidence:

types;
MI

Clinical Presentation:

- a) Maternal history of polyhydramnios is present in 20% of patients.

- b) Generalized abdominal distension, bilious vomiting, and failure to pass meconium in the first 24 to 48 hours after birth.

- c) A family history of cystic fibrosis.
Management:

Multipl enemas may be required.
• **Surgical Treatment;**
  
  i) the meglumine diatrizoate enemas do not relieve the obstruction.

 ii) The infant appears too ill to delay operation.

 iii) complicated MI.

 iv) The diagnosis of meconium ileus is uncertain.
Hirschsprung's Disease

**Incidence:** 1:5000 live births

**Etiology:**

is the absence of ganglion cells in the lower rectum.

This leads to ineffective conduction of peristalsis, resulting in a functional obstruction.

The aganglionic segment may extend more proximally and can involve the entire colon.
HIRSCHSPRUNG’S DISEASE

**Presentation:**

- Failure to pass meconium within 48 hrs.

**Non-specific sxs in older infant and child:**

- Episodic abdominal distention, overflow diarrhea, severe constipation
WORK-UP of HD
OPERATIVE MANAGEMENT OF HD

• Procedure; pullthrough

• Traditional:

• recently: Trend to avoid colostomy;

• Laparotomy.

• Anal.

• Laparoscopic.
HIRSCHSPRUNG’S ENTEROCOLITIS?
PRESENTATION OF ENTEROCOLITIS
Imperforate Anus

• The incidence; 1 in 5000 live birth.
• Ass. Anomalies VACTERL.

OLD CLASSIFICATION;

RECENT ONE
Presentation
Algorithm for treatment of newborn boy with anorectal malformation

Male
Newborn with anorectal Malformation

Observation 16-24 hours
Abdominal ultrasound

Perineal inspection
Urine analysis

Clinical evidence (80-90%)

No clinical evidence questionable (10-20%)

Perineal fistula
"Bucket handle" midline raphe fistula

"Flat bottom" meconium urine

Cross table lateral film with patient in prone position

Colostomy 4-8 weeks

>1 cm bowel – skin distance

<1 cm bowel – skin distance

Minimal **PSAP
no colostomy

*PSARP
Minimal **PSAP, no colostomy

*PSARP : Posterior Saggital Ano Recto Plasty
**PSAP posterior Saggital Ano Plasty
Algorithm for treatment of newborn girl with anorectal malformation.

**FEMALE**

**NEWBORN WITH ANORECTAL MALFORMATION**

- **OBSERVATION 16-24 HRS**
- **ABDOMINAL ULTRASOUND**

**PERINEAL INSPECTION**

- **FISTULA (95% OF CASES)**
  - **CLOACA**
  - **VESTIBULAR (OR VAGINAL)**
  - **COLOSTOMY**
    - And if necessary, Vaginostomy urinary diversion
    - 6 months
    - 4-8 Wks. Rule out Associated Malformations Verify normal growth

- **NO FISTULA (5%)**
  - **CROSS TABLE LATERAL FILM WITH PATIENT IN PRONE POSITION**
  - **COLOSTOMY**
    - <1 CM BOWEL SKIN DISTANCE (EXTREMELY UNUSUAL)
    - >1 CM BOWEL SKIN DISTANCE OR QUESTIONABLE
    - 4-8 Wks. - Rule out Associated malformations Verify normal growth
  - **COLOSTOMY**
    - **PSARP**
  - **Limited PSARP**
  - **Minimal PSAP**
    - No colostomy
    - 4-8 Wks. - Rule out Associated malformations Verify normal growth
    - **PSARP**
Thank you?