

# **Clinical Diagnosis Of Intestinal Obstruction**

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# In neonates and infants

Hall mark of intestinal obstruction

Vomiting

1) color

a) nonbilious IHPS, pyloric atresia, D<sub>1</sub> atresia

b) bilious D<sub>2</sub> atresia, jejunoileal atresia & others causes

2) interval ( upper, lower)

# Distension

1) upper abdominal distension

Obstruction from pylorus to upper jejunoileal

2) lower intestinal , meconium Ileus , midgut volvulus, colon lesions atresia, meconium plug synd , small left colon synd

Hirschsprung's disease, anal atresia & sepsis

Late distension: atresias

Early distension: Meconium ileus

Early vomiting: upper obstruction.

Late vomiting: lower intestinal obstruction.

- ▶ Colicky abdominal pain
- ▶ Interval
- ▶ Constant
- ▶ Associated symptoms

- ▶ Limited air Fluid level: upper intestinal obstruction
- ▶ Multiple air Fluid level: lower intestinal obstruction
- ▶ Upper abdominal distension: upper intestinal obstruction
- ▶ Whole abdominal distension: lower intestinal obstruction

DD of lower intestinal obstruction

1) Hx , familial history, acuteness, calcification, clinics

2) Distension, time of distension

Non odor vomiting: upper intestinal obstruction

Mal odor vomiting: lower intestinal obstruction

Early air Fluid level: atresia

Late air Fluid level: Meconium Ileus



Sequences of bile color by time: golden color → greenish → feaculent (mal odor)

Electrolyte ,acid and base imbalance: more in upper intestinal obstruction

Fluid imbalance: more in lower intestinal obstruction

Hazard of strangulation: less in upper intestinal obstruction (except volvulus, more in lower intestinal obstruction)

# Imaging

Flat & upright of abdomen ,(rule of tumb)

a) air fluid level (1,2,3), 80-90% is diagnostic

other findings in plain x-ray

(calcification, mass, cyst, soap bubble appearance (meconium ileus) & jejunoileal atresia)

b) more air fluid level > 3

UGI dye study ( 10-20% ) in equivocal cases

## Ba enema

1) Micro colon

a) Partial ((SLCsyn, meconium plug synd, colon atresia,HD)

b) Total (meconium ileus, jejunoileal, total HD)

2) Normal Ba enema (Sepsis, volvulus)

# Constipation in children

## **Definition of functional constipation:**

Retention and incontinence

Not associated with acquired, congenital or medical causes

Cause is obscure

# Functional Constipation

Two or more following must exist.

1. Two or fewer defecation / **per week**
2. At least one episode of fecal **incontinence**
3. History of **retentive posturing** or excess **voluntary stool retention**
4. History of **painful** or hard stool move
5. Presence of **large fecal mass** in the rectum
6. History of large diameter of stool **obstruct the toilet**

50% familial, male predominance **1.5**<sub>/1</sub> or **3**/<sub>1</sub>

**neonate never** has functional Constipation

94 - 98 full term, 76 preterm , 24h pass stool

100 full 99 preterm pass stool 48 h

In first year of life Constipation organic cause should be rule out

Soilage 3% , 13% medical, 25% of GI referral

**During in fancy** : breast or formula to solid food

Fissure , fever, perianal dermatitis , dehydration

cow milk protein intolerance

low Dietary fiber in old children are the causes of vicious cycle

Constipated parents has constipated children

Psychology problems are common in children but maybe secondary to constipation

1. Adaptive compliance of colon (retentive mechanism )
2. Impedance of fecal mass, because the end of GI is not a straight tube
3. Angulatin , valves of Huston
4. Anorectal angle 80
5. Longitudinal mucosal fold in anus (semisolid or liquid, gas)
6. Anal sphincter (internal resting pressure)
7. Ext sphincter. Lavatory ani
8. Intact sensory input of rectum and anus
9. Stretch receptor in anal canal( distinguish flatus, fluid, feces)

Gross continence ability to hold large solid or liquid feces result of

1. Intact anorectal angle
2. Intact tonic contraction (int & ext sphincters)

Fine continence (control of small volume feces or flatus result of)

1. Sampling
2. Coordination of action of sphincters (solid, liquid and gas)

Distal 2 cm of anal canal, dentate line



## Acute constipation

1. In activity
2. Change of environment
3. Diet
4. Fissure

Presentation: acute abdomen pain relief by enema

Treatment: add water to diet, restrict the cow milk. In older children, laxative may be needed.

## Chronic constipation

No response to dietary manipulation or simple laxative treatment

Commonly with soilage to rule out organic causes

1. Differential diagnosis
2. HD, anal achalasia
3. IND
4. Hyper ganglia
5. Hypo ganglia

## **Congenital**

1. **Anal stenosis**
2. **Anterior perineal anus**

## **acquired**

1. **Chronic anal fissure**
2. **Chronic anal fistula**
3. **Crone daises**

## **Systemic disease**

1. **Hypo thyroid**
2. **Hyper calcemia**
3. **CP**
4. **Uremia**

## **Psychologic**

1. **Depresseion**
2. **anorexia nervosa**
3. **primary encopresis**

## **Medications**

1. **anticonvulsive drugs**
2. **psychological drugs**
3. **anticholinergic drugs**



Chronic constipation

40% not toilet trained

30% enuresis

Typically 2-4 years

40% symptoms onset is from year 1

## Diagnosis HX & PE

Start of the problem (age)

Frequency and consistency of stool

Previous treatment and medication

Drugs (anti acid and anticonvulsant and iron suppl.)

HD, CF, parents constipation

Abdomen: non tender non distended

Palpable stool in left side

Perianal sensation cotton applicator

Soilage

Digital exam R/O

- Stenosis
- Fecal mass
- Retro rectal mass
- Anal closing reflex

Neonate and small children

Needs Ba enema without preparation

A normal Ba Enema → Bx or manometry

Old children no need for Ba enema

If not response to treatment Ba enema

Abd. x-ray, MRI or neurological exam if positive

Rectal biopsy if not response to treatment

# Management of chronic idiopathic constipation

1. Provide parental counselling and education
2. Determine fecal impaction
3. Disimpaction
4. Initiate oral medication



1. **Education:** first step, pathology of soilage, explain, supportive attitude, education of parents and child, emotional support, 6-12 support or even years.
2. Disimpaction (rectal exam, palpation, overflow incontinence, oral or rectal wash out )
3. Laxative, mineral oil, PEG, osmotic laxative ( lactulose)
4. Rectal wash out

## Maintenance therapy

Goal is to provide one or two soft stool/ per day and no recurrent impaction

Abolish vicious cycle of hard stool and painful defecation

Behavioral modification dietary change and laxative.

Increase Fiber and fluid, not too much cow milk.

PEG, lactulose can be used for months or years.

PEG is better than lactulose. Minimum effective dose?

## **Behavioral therapy**

Infants and toddlers no role

Early and aggressive toilet training is discouraged.

Less than 2 to 3 years toilet should be avoided and diapers reinstitute.

Toilet after regular major meals, prize, rewards, and a diary may contribute to a successful outcome.

## Outcome

50 to 70% needs 5 years follow up

1/3 of cases needs continue to beyond puberty

Surgical options for chronic constipation

Majority improve, Minority needs surgery

MAICE

Resection of mega rectum

mega sigmoid

colostomy

Functional fecal soilage without constipation

Small sub group has incontinence without cause

Typically age 4-8 years involuntary passage.

Anticholinergic treatment with oral oxibutinin hydrochlorid ( 5-15 mg/day)