



# 432 Surgery Team

19

## Approach to infants and young Children surgical abdomen



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COLOR GUIDE: • Females' Notes • Males' Notes • Important • Additional

# Objectives

Realize the impact of age

- Where/who are the history sources

Recognize and interpret the

- important symptoms
- Important signs

# History The impact of age :

## + Less than 3-4 years:

- **Difficult to communicate**

1. Verbal expression
2. Fear of strangers

- **History sources**

- ✓ **Mother is the best source** (90% from the mothers) (because she take care of the child and know what's normal and what's abnormal )
  - Social barrier less than what we expect
- ✓ **Father is not very reliable** (sometimes fathers pretend that they know and start to give you false information)
- ✓ **Nurses are reliable**
  - Not always possible/available
  - Important in PICU/ NICU
- ✓ Other doctors

# Symptoms of surgical abdomen

## + Feeding & Growing

- **Feeding well and growing**  $\implies$  **healthy baby**

- **Poor feeding**

- ✓ Sick baby  $\implies$  from any GI or systemic cause (ear infection)
- ✓ GI obstructed
- ✓ Pain

## + Persistent vomiting $\implies$ Sick baby

- **Frequency** (if he vomit all the time is pathology , if occasionally he is normal)

- **Color**

- ✓ Milk vs. greenish

- **Force**

- ✓ Projectile  $\implies$  proximal obstruction

(Forceful vomiting and travels away from the patient)

- ✓ Small amount after each feeds  $\implies$  regurgitation  $\implies$  normal as long as gaining wt

### **Note(s):**

Color indicates the level of obstruction:

1<sup>st</sup> Part of duodenum or above in pyloric (hypertrophic pyloric stenosis) its projectile

Will be white and milky (what he/she just ate)

3<sup>rd</sup> Part will be greenish because of mixture with bile

From (431) We have to differentiate between "reflux=regurgitation" and "vomiting"

Reflux: is regurgitation of few amount of milk that comes after feeding which is normal

"as Long as gaining weight" and common in new born babies especially if the mother did not

Burb the child or did not get the gases out

vomiting: vomiting large amount whether milk or bile.

The problem with vomiting is dehydration that will lead to renal failure.

## Symptoms of surgical abdomen

### Bowel movement (BM)

- **Frequency**

- ✓ What is the normal for infant? 3 per day to once in 2-3 days
- ✓ Constipated, obstructed
- ✓ Failure to pass meconium in newborns

### **Note(s):**

Meconium: early feces(stool) passed by newborn soon after birth, before the baby has started to digest breast milk .Meconium is 80% passed in the first 24 hrs ,95% in the 48 hrs (greenish, sticky ,dark)

(From 431 and doctor note) If newborn did not pass it within 24 hours we start suspecting a problem, mainly large bowel obstruction

The most common cause of this is Hirschsprung's disease!.

**Hirschsprung's disease (HD):** is a disorder of the abdomen that occurs when part or all of the large Intestine or antecedent parts of the gastrointestinal tract have no nerves and therefore cannot function.

- **Consistency**

- ✓ Loose / watery  $\implies$  diarrhea
- ✓ Firm & dry  $\implies$  constipation (small pieces)

- **Color**

- ✓ Very pale (If comes very pale it indicates bile obstruction “jaundice”->dark urine + pale stool indicates obstructive jaundice.)
- ✓ Black ⇒ Melena
- ✓ Bright red

(Upper & lower GI bleed is very rare in children. On the other hand anal fissures are common)

## + Crying baby

- **Babies communicate their needs by crying**

- ✓ Hungry
- ✓ Wet (urinated)

- **At >6 month ⇒ they learn to cry for other reasons**

- ✓ Want to be carried
- ✓ Want to play

- **Baby who continue to cry, refuse feeding and dry ⇒ pain**

- ✓ Abdominal pain
- ✓ Ear ache
- ✓ Sore throat

**Non-crying baby can be worrisome !!!**

## Symptoms of surgical abdomen illnesses

### + Development:

- **Physical growth (height and weight)**

- ✓ Chronic problems ( Metabolic, Nutrition => gut health)

- **Psychological**

- ✓ Mental problem, chromosomal abnormalities

- **Motor**

- ✓ Syndrome
- ✓ Metabolic

## Relayed symptoms (by parents)

+ External abnormality  $\implies$  anything that is seen/felt as abnormal by parents :

- **Swelling**

- ✓ Abscess (supporting findings: discharge, fever, redness of skin , irritability and crying )
- ✓ Mass (lymph node, Tumor, Cyst, Hernia)

- **Color changes**

- ✓ Inflammation
- ✓ Rash ( common )
- ✓ Vascular malformation
- ✓ Jaundice
- ✓ Cyanosis ( respiratory problem)

**Note(s):**

**Hernia is the only Swelling that Comes and goes**  
Swelling in scrotal its hydrocele  
Red swelling in perianal area is perianal abscess  
Neck swelling could be lymph node'  
Mass: mother when she washes the baby she feels mass in abdominal

+ **Mental changes**

- **Responsiveness**

- ✓ Normally babies play and cry but when the Mother says the Baby is not responding as he used to be (bad sign)
- ✓ Spouse that he sick and have bowel abstraction and repeating vomiting and poor feeding and dehydration so become less responsive and --->
- ✓ Sleepy + Not interested in feeding could be indication for;
- ✓ sepsis, shock, CNS trauma, metabolic (O<sub>2</sub>,Glu, urea)

## Common Abdominal problems: combine symptom

together in order to come up with differential diagnosis

- ❖ Vomiting
- ❖ Constipated / diarrhea
- ❖ Poor feeding
- ❖ Abdominal distension

**Note(s):**

1) Eg: child present with constipation and not have bowel movement for the last 5 days and abdominal distension and greenish vomiting - ---> distal bowel abstraction  
2) Eg: child repeated postprandial vomiting of milk for the last 5 days without abdominal distension ----> proximal pyloric abstraction  
3)Eg: baby 1 month old present with right inguinal swelling with repeated vomiting ---> abstracted hernia

- ❖ Palpable mass (felt by parents)
- ❖ Very dark or very pale colored stool

## History (general skills)

### + A good history = a good logical story

Known major Predisposing factors  $\Rightarrow$  Describe the current problem  $\Rightarrow$   
 Other risk factors  $\Rightarrow$  Symptoms of other possible complications

## Physical Exam:

### + Vital signs (are the same as those for adults)

- Fever
- RR, BP, HR, O2 Sat (babies have higher HR,RR. Lower BP. The younger the child , higher the values)

### + Consciousness (crying)

- Crying baby  $\Rightarrow$  not very sick (not critical)
- Unusually calm baby who doesn't respond normally  $\Rightarrow$  sick

### + Exam while crying

- **Can't hear the chest well**
  - ✓ Focus on inhalation
- **Can't examine abdomen well**
  - ✓ Examine while taking breath
  - ✓ Keep hand on abdomen
- **Can't concentrate**
  - ✓ Parent are stressed  $\Rightarrow$  less time

#### *Note(s):*

Try not to make the Baby cry, be nice and gentle. Because if the baby cries, his/her abdomen will contract therefore examination will be affected also the parents will be stressed

## Otherwise similar to adult

- ❖ Due to the relative difficulties in taking a reliable history and performing an accurate physical exam
- ❖ We tend to depend more on **investigations** in diagnosing the underlying problems **in infants**

Luckily children is usually healthy so if present with symptom they usually reflect one illness

### SUMMARY

1. History of child less than 3-4 year , history sources
2. Symptom of surgical abdomen (Feeding & growing , vomiting , bowel movement , crying baby , development)
3. Relayed symptom (by parents) (swelling , color change , mental change)
4. Abdominal problems (Vomiting, constipation/diarrhea, poor feeding, abdominal distension, palpable Mass and very dark or very pale stool.)
5. Physical exam (vital signs , consciousness , exam while crying)
6. Investigations



## Questions

Questions:(from manual to surgery 351)

1) 5 weeks old boy brought to you by his parents because of recurrent vomiting. Parents indicated that the baby vomits with significant force all the milk he had ate completing the feed. Where do you think is the level of obstruction?

- a) Esophagus
- b) Middle ileum
- c) Proximal colon
- d) Pylorus

2) The child who is most likely to need a surgical consultation?

- a) 1 month-old breast fed baby didn't pass stool for 4 days
- b) 5 day-old baby with fever, passing soft light yellow stool
- c) 3 day-old baby didn't pass meconium during the first 48 hours of life
- d) 12 month-old baby didn't pass frequent liquid stool for one day

3) 6 months old baby boy presented to emergency department with history of possible swallowing of metallic object. The father said he was not sure if the baby swallowed the object. The next most appropriate is:

- a) Perform an upper GI endoscopy
- b) Perform a chest X-ray of the chest and upper abdomen
- c) Perform a chest X-ray to the neck and chest, AP and lateral
- d) Ask the mother about the incidence

4) the most dangerous problem with vomiting is :

- a) Renal failure
- b) liver failure
- c) heart failure
- d) respiratory failure

4) Mainly we depend on .... To diagnose infants ;

- a) History
- b) Examination
- c) History + Examination
- d) Investigation



**Answers:**

- 1st Questions: D
- 2nd Questions: C
- 3rd Questions: D
- 4th Questions: A
- 5th Questions: D