

# Approach to infants and young children surgical abdomen

● **Important**

● Notes (Doctors'/students')

**431**

**SURGERY TEAM**

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## 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)**
    - Social barriers less than what we expect, some mothers leave their children with their nannies.
  - Father is not very reliable (sometimes fathers pretend that they know and start to give you false information)
  - Nurses are reliable:
    - Important in ICU and chronic hospitalized patient.

### -Symptoms of surgical abdomen

#### ❖ Feeding

Any pathological process that happens in the bowel will interfere with feeding. So if baby is feeding, there is a less probability that the baby is having a gastrointestinal problem.

- **Feeding well : healthy baby**
- **Poor feeding :**
  - Sick baby (from any GI or systemic cause "ear infection" )
  - GI obstructed
  - Pain

#### ❖ Vomiting (sick baby)

- **Frequency**

Once a day is not significant.
- **Color**

**Indicates the level of obstruction:**

1<sup>st</sup> part of duodenum or above  
will be white and milky (what he/she just ate)  
3<sup>rd</sup> part will be greenish " because of mixture with bile"
- **Force**

Projectile (=forceful vomiting and travels away from the patient) :  
proximal obstruction

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 burp the child or did not get the gases out

-vomiting: vomiting large amount whether milk or bile.

The 1<sup>st</sup> problem with vomiting is dehydration that will lead to **renal failure**.

## ❖ Bowl movement

### ◦ Frequency

- What is the normal for infant? Breast fed baby every 3 days
- Constipated, obstructed.  
We start giving candies and sugar products when they become 6 months that causes constipation (high calories and low fibers) that could cause anal fissure or constipation.
- Failure to pass meconium in newborns:  
Most common cause is Hirschsprung's disease

Meconium: the first stool the baby pass which is very dark greenish color. Usually in the first 24 hours

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 → diarrhea

Firm & dry → constipation

### ◦ Color (normally pale yellow)

- If comes very pale it indicates bile obstruction “jaundice” → dark urine + pale stool indicates obstructive jaundice.
- If black means melena
- If bright red means rectal or anal problem.

- Common cause of biliary obstruction in newborns is biliary atresia

- Melena: very very uncommon in children, because they have low acids in stomach since they do not eat meat, unlike adults. This is also why peptic ulcers are very rare to be found in babies. (REMEMBER: low pH is required in the stomach to activate pepsinogen into pepsin which degrades protein foods into peptides)

## Crying baby

**Babies with pain will never tell you they have pain → NEVER SAY THIS IS A 2 YEARS OLD BABY PRESENTED WITH ABDOMINAL PAIN**

- **Babies communicate their needs by crying:**
  - Hungry

- Wet diaper
- **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 → means there is pain**
  - Abdominal pain
  - Ear ache

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

### ❖ Development

- **Growth (height and weight)**
  - Chronic problems ( Metabolic, Nutrition => gut health "obstruction")
- **Psychological**
  - Mental problems, chromosomal abnormality
- **Motor**
  - Syndrome
  - Metabolic

### -Relayed symptoms (by parents)

#### ❖ External abnormality : 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**
  - Rash ( very common)
  - Inflammatory area
  - Vascular malformation

Hernia is the only swelling that comes and goes.

#### ❖ Mental changes

- **Responsiveness**  
Normally babies play and cry but they could be sleepy and not interested in feeding that indicates; sepsis, shock, CNS trauma , metabolic(o2, glu,urea)

### -Common Abdominal problems:

**Vomiting, constipation/diarrhea, poor feeding , abdominal distension, palpable mass and very dark or very pale stool.**

**A good history = a good logical story**

## Physical Exam

❖ **Vital signs:** are the same as those for adults

❖ **Consciousness (crying)**

- Crying baby usually not very sick
- Unusually calm baby who does not respond normally is sick (critical)

❖ **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

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 examination similar to adult**

**Note:** 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

**A good listener predicts diagnosis early in the history, not at the end of history taking, and ask about the risk factors accordingly.**

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

