

# Approach to surgical abdominal problems in pediatric



Surgery Team  
MED 433



# History

## “ The Impact Of Age”

- *Babies less than 3-4 years show some difficulty to communicate*
  - ✓ Verbal expression
  - ✓ 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** (he usually away outside and sometimes fathers pretend that they know and start to give you false information)
  - ✓ Nurses are reliable (Not always possible/available)
  - ✓ Important in PICU/ NICU



# I- Symptoms of surgical abdomen

| Symptoms   | causes \ manifestations | Indicate :  |
|--|-------------------------|---|
| <b>Poor feeding</b>  | Sick baby or in pain    | From any GI or Systemic infection (ear infection)   |
|  | GI obstructed           |   |
| <b>Persistent vomiting</b><br>“in chronic vomiting it’s reliable to <u>measure the infant’s weight</u> ” | Color                   | <b>Indicates the level of obstruction</b><br>- First part of duodenum or above : projectile will be white \ milky “what baby drink”<br>- below that will be greenish <u>as it mixed with bile</u> |
|  | Frequency               | - <b>Vomiting all the time is pathology.</b><br>- Occasionally : normal   |
|  | Force                   | - Projectile : Proximal Obstruction<br>- <b>Small amount after each feeding is regurgitation: normal as long as the baby gaining weight.</b>  |

## NOTE(431)

- Regurgitation: reflux of few amount of milk that comes after feeding is normal and common in new born babies
- vomiting: vomiting large amount whether milk or bile. The problem with vomiting is dehydration that will lead to renal failure.



# I- Symptoms of surgical abdomen - cont

| Symptoms  | causes\manifestations                            | Indicate:  |
|---|--|--|
| <b>Bowel Movement</b><br>“normal 4 per day to once in 2-3 days” | Consistency                                      | - Loose\ watery :Diarrhea<br>- Firm & Dry :Constipation  |
|   | color  | - <b>Very pale: jaundice</b><br>- <b>Black :Melena</b><br>- <b>Bright red: might suggest anal fissure.</b> |
|   | Meconium: early feces passed<br>Within 24-28 hr. | greenish, sticky and dark stool passed soon after birth, before the baby has started to digest breast milk |

\*If a newborn **didn't pass stool within 24-48 hours** large bowel obstruction is highly suspected. The most common cause of the bowel obstruction is **Hirschsprung's disease** which is 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.



# I- Symptoms of surgical abdomen - cont

| Symptom:                                       | causes\manifestations:                              | Indicate:   |
|--|---|---|
| Development                                    | Growth “height + weight”                            | - <b>Chronic diseases</b><br>Either metabolic or nutrition                                    |
|  | Psychological                                       | - Mental problem<br>- chromosomal abnormalities   |
|  | Motor   | - Syndrome Metabolic  |
| Crying   | Hungry - Wet - Want to be carried -<br>Want to play | - <b>Nothing</b>  |
| Continue to cry<br>+ refuse feeding and<br>dry | Pain  | Could be:<br>✓ Abdominal pain<br>✓ Ear ache<br>✓ Sore throat                                  |
| Non-crying baby                                | Can be worrisome : pain                             | Baby might developed <b>sepsis and in shock</b> . He\she is so <u>tired he even can't cry</u> |

## II- Relayed symptoms

- ❖ Any External abnormalities that are seen or felt by parents.

### Swelling

#### Abscess:

- Swelling
- Fever
- tenderness of skin
- irritability and crying.

#### Mass:

- Could be :
- lymph node
- Tumor “non tender mass “
- Cyst
- Hernia “Swelling that Comes and goes”



### Color changes

#### Inflammation

#### Rash ( common )

#### Vascular malformation

#### Jaundice

#### Cyanosis

- Because of certain respiratory problems
- Mental changes



### III- 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) .
- Supposed that he sick and have bowel abstraction and repeating vomiting and poor feeding and dehydration so become less responsive and → Sleepy + **Poor feeding could be indication for sepsis, shock, CNS trauma or metabolic (O<sub>2</sub>,Glu, urea)**



### IV- Common Abdominal problems:

- Vomiting.
- Constipated / diarrhea.
- Poor feeding.
- Abdominal distension.
- Palpable mass (felt by parents).
- Very dark or very pale colored stool.

#### NOTE (432)

**Case 1:** child present w\ constipation and not have bowel movement for the last 5 days + A.distension and greenish vomiting.

**Dx: distal bowel abstraction**

**Case 2:** child repeated postprandial vomiting of milk for the last 5 days without A.distension

**Dx: proximal pyloric abstraction**

**Case 3:** 1 month old baby present w\ right inguinal swelling w\ repeated vomiting.

**Dx: abstracted hernia**

## V-History and physical examination

Hx

- Known major Predisposing factors
- current problem
- Risk factors and Symptoms of other possible complications

PE

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

Consciousness

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

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

### Examine a baby 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 less time

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.



# Summary



- **Mother** is the best source for baby's history.
- **Poor feeding** is a common symptoms and could indicate not only the GI problems.
- **Persistent vomiting** is significant and may indicate serious underlying diseases. Color, frequency and force give hints about them.
- Changes in the bowel habit can be divided into **color and consistency changes**, both are significant .
- **Continued crying or non crying babies** should draw the pediatrician's attention.
- Physicians depend **more in investigation** than in Hx\PE in children less than 4-5 years old.

## **Notes was mentioned by the doctor during the lecture:**

- Crying baby came with vomiting and color of vomiting is green? Probably obstruction distally
- Crying baby with bright red stool? Think about anal fissure
- Crying baby with swelling in inguinal area? Think about Inguinal Hernia
- Crying baby with swelling in perianal swelling? Could be Abscess
- Note that during the physical exam of baby they usually cry and their abdominal muscle will be contracted! So you try to feel lateral to rectus muscle

**NOTE: No rectal exam for babies until 1-2 year old**



# MCQs “from raslan’s notebook”



1) 5 week 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 and get hungry again ! 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 surgical consultation?

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

3) 6 months old baby boy presented to ER with history of possible swallowing of metallic object, the father said he wasn't sure if the baby swallowed the object, the next most appropriate is ?

- a) Preform an upper GI endoscopy
- b) perform chest x-ray of the chest and upper abdomen
- c) perform chest x-ray to the neck and chest, AP and Lateral
- d) Ask the mother about the incidence



# Thank You..

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