Pediatric Potpourri

Notes

EMC 420: Maternal & Child Emergency Care
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Objectives

Upon completing this lecture you will be able to discuss:

- GI emergencies
- GI bleeding
- Non-GI causes of abdominal pain
- Abdominal Pain in Sickle Cell
- Evaluation of the febrile child and of febrile seizures
- Hypoglycemia in the infant vs older child
- SIDS and ALTE
- Evaluation of the Cyanotic Child

GI Emergencies

Children with abdominal emergencies will have symptoms of:

- Pain
- Vomiting
- Bleeding
- Occult trauma [child abuse]

Children with Abdominal Pain

- Immobilized child = peritoneal
- Restless child = obstructive lesion
- Area of pain usually of ***no*** diagnostic help in children
- Pain may radiate to shoulder
- Pain 6 hr. : requires surgical evaluation/treatment.

Children with Vomiting

- R/O pneumonia
- R/O increased intracranial pressure (Reye's; encephalitis; HELLP)
- *Bilious* vomiting is always a serious problem
  - Mechanical obstruction (volvulus; pyloric stenosis)
    - Child may be hungry immediately after vomiting

Children with LGI Bleeding

- With pain
- Often trivial(fissure)
- May be emergent (3), especially if associated with vomiting (volvulus)
  - Volvulus (malrotation)*
  - Intussusception
  - Complicated Meckel's*

* will probably require surgery; ie, start IV

- With *no* pain
- Fissure
- Gastroenteritis
- Swallowed maternal blood
- Polyps
- Uncomplicated Meckel's

Children without Bleeding

- With pain
- Incarcerated hernia*
- Obstruction*
- Sickle cell
- Ectopic

* will probably require surgery; ie, start IV

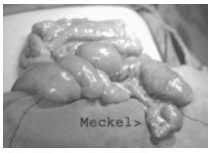
- No bleeding + no pain
- Pyloric stenosis
  (severe dehydration … shock)

Appendicitis

- Temperature may be normal
- Anorexia may not be present
- RLQ pain may not be present
- Diarrhea may be present
- May occur even in a child < 1 yr. old

Meckel's with Abdominal Pain

- Bleeding
  - most common sx/sn : painless massive lower GI bld
  - prevalence 2 % ; male (2:1); 30% sx within 2 yr
- Obstruction
- Ulcer
  - ectopic gastric mucosa
- Peritonitis



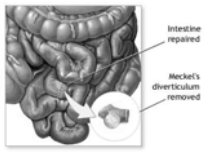


Illustration 1: www.med.cmu.ac.th/dept/pediatrics
Illustration 2: www.pennhealth.com/health

Pyloric Stenosis

- Non -bilious (not green) vomitus
- Projectile vomiting
- Positive FH
- Age: 1 *month* [2-8 wk]
- Hungry immediately after vomiting
- Peristaltic waves
- Palpable "olive"

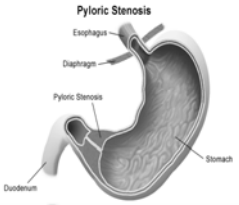


Illustration 1: www.lpch.org

Intussusception

- Age: 1 yr. old
- Suddenly, for no apparent reason, child will suffer severe pain, which may then, just as quickly subside
- "Currant jelly" stools
- Prehospital significance:
  - Colicy pain may have a serious cause.
  - Child just D/C'd home with this Dx may have recurrence within 48 hr

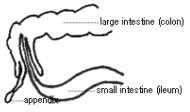


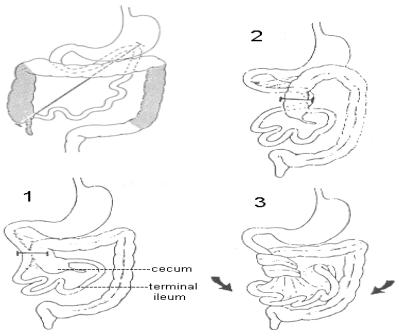
Illustration 1: :www.netterimages.com
Illustration 2: :www.pedisurg.com

Malrotation / Volvulus

- Age: commonly < 1 yr. old
- *The* most urgent GI emergency in infants and children
  (malrotation→volvulus→gangrene, within hrs)
- Vomiting(± bile)
- Distension
- Hematochezia (blood streaked stools)

Malrotation / Volvulus

www.pedisurg.com



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Non - GI Causes of Abdominal Pain

- Systemic
- Pneumonia
- Occult child abuse
- -GU/Gyn
  - Torsion(ovary or testis)
  - Ectopic
  - PID
- -Vertebral
  - Fx
  - Infection (sickle cell)

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Systemic Causes of Abdominal Pain

- DKA
- Sickle cell
- Influenza / pneumonia
- Black widow spider bite
- Lead poisoning

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Abdominal Pain in Sickle Cell Disease

Prehospital concerns

- Could this child have acute abdomen
- Could this child develop shock
- Could this child develop sepsis
- Could this child seize

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Abdominal Pain in Sickle Cell Disease

Prehospital concerns

- Could this child have acute abdomen
- Could this child develop shock
- Could this child rupture her spleen
- Could this child have a vertebral infection
- Could this child develop sepsis
- Could this child seize

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The Febrile Child

Prehospital concern : don't miss an infection that's potentially life-threatening or irreversibly damaging

History

- CNS changes of: lethargy
  irritability
  seizure
- Skin rash
- Bony pain

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PE in the Febrile Child

- Gen : alert, eye contact
  resists exam appropriately
  calms with consoling
- VS: R/O shock
- Neck: nuchal rigidity [younger: less reliable]
- Chest/CV: R/O pneumonia
- Abd: soft
- Extr: long bone/joints for tenderness
- Skin: rashes

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Hypoglycemia

Infant Sx / Sn
- Frequently *none* in neonate
- Hypothermia, pallor
- Difficulty *feeding*
- *Weak* cry
- Late: *tremors*, seizures

Child Sx / Sn
- Diaphoresis, tachycardia
- Irritability, pallor
- Headache, hunger
- Faintness, paresthesias
- ALOC
- Late: seizures

Causes
- Prematurity; post maturity
- Sepsis
- Alcohol [cough syrup,…]

Causes
- IDDM
- Drug induced
- Reactive hypoglycemia

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Febrile Seizures

- Fever over 39^0C (102.2^0F)
- Age : 6mo - 6 yr
- Brief [less than 5 min]; total body
- Resolve spontaneously [no treatment]
- Resolve quickly [minimal postictal]
- Occur early in course of fever [1st 24 hr]
- Previously normal child
- + FH

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SIDS

- Most common cause of death from 1 mo to 1 year (most before 6 mo.)
- Risks:
  - Young maternal age
  - Multiparity
  - + FH
  - Prematurity
  - Maternal substance abuser
  - Sleeping in face down / prone position
  - Hx of ALTE

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ALTE

- Apnea
- Color change
- Muscle tone change
- Choking or gagging
- Risk of SIDS especially high if:
  - Greater than 10 sec
  - During sleep
  - Seizures
  - Marked hypotonia ("looked dead")
- R/O other causes (Botulism, abuse, sepsis, meningitis, hypoglycemia)

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Hypoxia Not Relieved by 100% O_2

- "Blue baby" at birth: Tetralogy of Fallot
- Pathophysiology
  - Defects
    - Pulmonary artery: tight, stenotic
    - Right ventricle: muscular, hypertrophied
    - Ventricular septal defect
    - Aorta : malpositioned
  - Effect
    - Right to left shunt (mix of deoxygenated bld)

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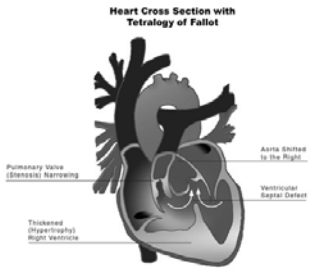
Tetralogy of Fallot

www.nhlbi.nih.gov



Tetralogy of Fallot

Cyanotic "Tet spells"

- Cyanosis; labored respirations; hemoptysis; seizures; syncope
- Infant
  - Precipitated by crying or feeding
- Older child
  - On the playground: squats down to catch breath
- Treatment
  - Knee-chest position (incr preload; incr afterload which decreases the R -L shunt);
  - Morphine (0.1mg/kg IV, IM, or even SQ);

Summary

We have discussed:

- Bilious vomiting; projectile vomiting
- LGI bleeding
- Abdominal Pain in Sickle Cell
- Febrile Child ; Febrile Seizures
- Hypoglycemia in the infant vs older child
- SIDS and ALTE
- Cyanotic congenital heart disease: Tetralogy of Fallot