Non-Accidental Trauma

Introduction

Physical child abuse is difficult to recognize, and commonly missed on initial presentations:

- It is most common in pre-verbal children, especially those <6 months
- Physical examination is limited, as a proper MOK and neuro exam can’t be performed in children
- Abuse is often missed in white and high-SIS families, and over-reported in African and low-SIS families

Child abuse can occur in all families. Physicians have an ethical and legal responsibility to report suspected cases

History

Does the injury match the mechanism?

- Serious injury with a history of only minor trauma is concerning
- Suspected intrauterine and intra-abdominal injuries rarely result from household falls or falls down the stairs

Is there an unexplained delay in seeking medical care?

- Even a minor delay in presenting should raise suspicion of abuse
- Delayed presentation for minor injuries can sometimes occur without child abuse

Use open-ended questions. NEVER directly ask the child if they have been abused

Concerning Features

Closed head injury is the leading cause of death in CB. Consider children with lethargy, somnolence, seizures, vomiting, or focal signs.

Physical Exam

Bruses

- Can take the shape of a causing object, or an object or an object's outline
- Linear, symmetrical, or bruise over non-tissue prominence or extensive
- Bruising on the arm, face, neck, or wrist, or elsewhere in the body
- Remember that “Those who don’t bruise don’t bruise”

Mouth

- Oral pharyngeal bruises may be found in abuse without history of medical trauma
- Scratch for bruise in the mouth, eyes, ears, and the face

Burns

- Intentional burns are common in reported neglect and abuse
- Look for burns that are 7-10 days, 2-3 weeks, and 6 months under
- Burn severity in children may be higher

Fractures

- Classically bruises and fractures may indicate significant
- toddler’s fracture - (buckle) usual spiral fracture, often seen with a bump on the arm, or elbow
- Diaphyseal or metaphyseal - severe metaphyseal fractures
- Acute or chronic - (buckle) metaphyseal fractures
- Long bone - (buckle) metaphyseal fractures
- BCSB - (buckle) metaphyseal fractures

CNS Bleed

- All hemorrhages – more common to present in older children (≥10Y)
- Cranial hemorrhage - complex
- (Gestalt) subdural type 1 – metaboloid disorders that cause subdural hemorrhages
- Birth trauma - retinal hemorrhage and subdural hematomas may not uncommonly

Use EXAM15

Suspected Fractures

- Long bone: - metaphyseal fractures or”buckle” fractures
- Metaphysisal fractures or “buckle” fractures
- Classic metaphyseal lesions seen on X-ray of long bones specific for abuse

Abdominal Injuries

- Should there be known intra-abdominal injuries
- Small bowel perforations = pancreatic injury or bowel wall ischemia

Head Injuries

- Traumatic brain injury under
- Subdural hematoma, complex skull fractures (sphenoid wing fracture) rare
- Look for recent specific for abuse

Differential Diagnosis

- Congenital Sydenham Heart Lesions – X-ray abnormalities on posterior side
- Physiopathologies - erythrocyte dysfunction from use of non-citrus fruit juice contact
- Blunt force trauma - (buckle) metaphyseal fractures
- Collagen dysfunction - pyloric stenosis, BMS, IPEM, or multiple amyloid optic
- Congenital disorders - hemophilia, VWD, BMS, thalassemia, etc.
- Abdominal trauma - blunt or penetrating, subcutaneous absence in children
- Spine - spondylolisthesis, etc.
- Calcium homeostasis - decrease in metastases in children

REFERENCES: