Gathering the Pieces and Putting Them Together: Working a Medical-based Child Abuse Case

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Objectives

• Realize that medical findings may not be definitive for abuse, but other information may allow for determination of abuse

• Know that obtaining a thorough history, preferably with a timeline, is vital to making an assessment about abuse

• Understand the importance of a multi-disciplinary approach to working a child abuse case
Child abuse fact-finding is unique
• The offense is committed in private.
• The victim often can’t or won’t disclose what happened to them or who did it.
• If there is disclosure, the child victim is often seen as less credible.
• Family loyalty protects the perpetrator.
• The physical evidence doesn’t always tell who did it.
The Primary Building Blocks Of A Case

- Medical evidence
- History
- Witnesses
- Other physical evidence (scene investigation)
THE MEDICAL EVIDENCE

• Medical knowledge *itself* will not equip us to work child abuse cases.

• An inconclusive medical opinion should NOT end the inquiry.
The Medical Evidence

- “The constellation of findings is most consistent with inflicted injury (NAT)”

- “It is my professional opinion that this degree of abuse is consistent with torture of this young child.”

- “The injuries are diagnostic of physical abuse.”
The Medical Evidence

• “With no accidental history given, non-accidental trauma cannot be ruled out.”

• “No mechanism was provided to explain the injury; the case is highly concerning for NAT.”

• “More information is needed regarding possible underlying medical conditions and from the investigation to provide clarity on whether or not abuse is truly a concern.”
The Medical Evidence

• “While NAT cannot be completely ruled out, the history provided is reasonable to explain [the injury].”

• “Overall the reported trauma history is a potentially plausible explanation for [the injury].”

• “The injury may be the result of inflicted or accidental trauma.”
OBTAINING HISTORY

- Information we gather at the front door drives the case.
- Obtaining a good history becomes your template for ongoing case assessment.
- Incomplete history often results in inadequate ongoing assessment/decision-making.
OBTAINING HISTORY

• Get a detailed timeline of events before, during and after the incident.

• Be aware of “red flag” issues related to the injury, i.e. no explanation, inconsistent or changing history, delayed treatment, history doesn’t fit the injury.

• Look for precipitators and triggers that might create an abusive event.
**PRECIPITATORS AND TRIGGERS**

- **Precipitator:** Event(s) or circumstance(s) that lead to an abusive action

- **Triggers:** Specific causes or behaviors that evoke abusive reactions from the caretaker
RED FLAG STORIES FROM CARETAKERS

- Child was unexpectedly found dead/unresponsive
- Child suddenly turned blue, stopped breathing
- Child suffered a sudden seizure event (no history of seizures)
- Child fell from a low height (less than 4’")
RED FLAG STORIES FROM CARETAKERS

- Child was choking and caretaker hit him on the back; not breathing and shook to revive
- Child hurt himself or sibling hurt him
- Child fell down stairs
- No explanation of injuries
- Story changes over time
Fact-finding is KEY!

A large majority of cases are solved or resolved **NOT** by physical or observable evidence, but by the professional’s ability to gather facts from interviewing people (victims, witnesses, possible offenders, etc.).

Critical Skills For Interviewing Adults
Interagency communication

- First responders
- Law enforcement
- DFCS
- Hospital team
  - ER physicians, social workers, nurses, residents, students, techs (xray, lab, respiratory)
  - Treating team (physician, nurses, social worker)
  - Consulting teams (surgery, psychiatry, ophtho)
  - Child abuse team (physician, DFCS liaison, social worker)
Communication

- Medical record
- EMS run sheets
- Dispatch
- Person to person
- Photographic
En route to hospital

- Documentation of medical interventions, assessment of child
- Documentation of caregivers’ responses, comments, history
- Be alert for any signs of IPV, drug abuse by the caregivers
The Scene

• Treat patient as moving part of scene
• Documentation very important
  – Location
  – Dress
  – Position
  – Nearby objects
  – Demeanor of family members
  – History provided
Securing the Scene

- Law Enforcement

- In any child death or serious injury, treat as crime scene unless proven otherwise
  - Potential to lose valuable info if not secured
  - Perpetrators may clean up scene while patient is in hospital prior to all parties knowing extent of injuries
Case 1: LV

- 19 month old boy born drug exposed and low birth weight.
- Hx of hypotonia, developmental delay, laryngomalacia s/p supraglottoplasty and laryngeal cleft repair, GERD, and dysphagia with NGT dependence.
- Open DFCS case due to mom’s drug use; dad obtained guardianship; staying with paternal aunt and her family.
- Two days before hospital admission Dad left on business; child remained in care of aunt.
• Aunt reports finding the baby “blue” and “not breathing” with the NG tube wrapped around his neck during the night; he had vomited large amounts of formula.

• CPR was administered and 911 was called; patient in full arrest when EMS arrived; copious oral secretions prohibited intubation; CPR continued in route to local hospital, with 2 rounds of epi and bicarb x1.

• Intubated and transferred to children’s hospital PICU.
PICU:
- Mechanically ventilated
- Scattered petechia on face (cheeks primarily)
- Dark ligature marks seen on neck, especially posteriorly.
- Pale. Petechia noted on face and bilateral eyes
- Child advocacy consulted.
Child Advocacy:

• Dad said the aunt called him and said the baby “got wrapped up in his feeding tube and [her husband] had to come in and rip the tube out of the machine and he began CPR.”
• The baby was fine when dad left; he was playing with his 14 year old cousin.
• The aunt sent dad a photo of the baby two days earlier; he was sitting up and the NG tube was in his left nostril, taped to the left side of his face.
LV

- The aunt said that LV was fussy the night before and she put him to bed ~9:45pm.
- At 10:30pm she hooked the NG tube to the feed pump.
- The pump alarm woke her up at 1am; the baby was not responding, with the “tube wrapped around his neck, like he had rolled and rolled.”
Child Advocacy:

- Dad was shown a clear 8 French NG tube from the PICU; he said LV’s tubes are 6.5 French, orange and “stretchy”, not stiff like the one shown.
- Dad said he primarily places the NG tube but since moving to the aunt’s home, she has acted as a “nanny” and “knows how to do this.”
Child Advocacy Impression:

- Physical exam showed linear petechiae/bruising circumferentially on the neck with petechial lesions superiorly; consistent with strangulation injury. No other injuries.

- Reported mechanism of the NG tubing needs further LE investigation to assess plausibility.
Case 2: MM

- 17 month old girl, with Mom all day

- Fed ramen noodles that she “apparently didn’t like” and spit them out; had vomiting episode.

- Mom put baby in crib and went on an errand; boyfriend at home, walked by crib, saw her shaking and become unresponsive; blew in face, began chest compressions, called 911.
• Taken to local hospital for AMS; was awake and alert soon after.
• Normal head CT and labs but still concerns for mental status. Transfer to tertiary hospital.
• Pt. vomited in ED and somewhat lethargic. Social history somewhat concerning, admitted for observation for seizure; cannot totally rule out abuse and accidental toxic ingestion.
• Repeat CT was normal; Neuro diagnosis: “tonic clonic seizure.”
• Other: Rapid onset strep; anemia; normal CT.
Head CT

Normal head CT
Social Work consult:

- Mom seen on described as “open and cooperative.”
- Mom and BF’s mother had just left the house; BF with baby; BF called his mother’s cell phone, said baby unresponsive. Mom went home and baby was in ambulance.
- Mom denied recent trauma.
- Mom presented appropriately, was concerned and responsive to baby’s needs.
- No indication that baby was victim of NAT.
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Discharge on:

- Regular Diet
- Follow up with Neurology
- Follow up with PCP 2-4 days
- Diastat as needed (for seizures)
- Iron and antibiotics prescribed.
• Day after discharge baby woke up with blank stare to one side and became unresponsive. Mom called EMS who found baby in Mother’s arms on porch; child flaccid and only responds to painful stimuli; afebrile, appears to be bradycardic by palpation of femoral pulse.

• Arrives at local hospital not responsive; MD witnessed seizure activity in ED; transfer to children’s hospital.
• Local hospital CT showed SDH; suspicious for NAT.

• Mom to attending doctor: she didn’t leave baby since discharge day before. Brief visit at grandmother’s home after leaving hospital and then went home. Baby slept well through the night. Denied any falls or trauma.

• Abnormal EEG. MRI was negative for SDH

• Social work assessment and child advocacy consult completed.
Head CT
Brain MRI:

- No definite hemorrhage identified.
- Altogether, findings are nonspecific.
- NAT with hypoxic ischemic injury could give this appearance.
- Could not exclude infectious etiology.
- Prolonged seizure event could cause decreased diffusion.
- Findings were discussed among other specialists.
Child Advocacy Consult:

- New onset seizure following apparent choking episode with subsequent apnea.
- Abnormal MRI with bitemporal decreased diffusion.
- Normal skeletal survey.
- CSF results not c/w bleed
- Cannot entirely rule out the possibility that MM has been a victim of physical abuse, there is not anything on history PE, or imaging studies that is diagnostic for physical abuse.
- (Later ophtho exam was negative for RH.)
Social Work Consult:

• Mom reports MGM being a social worker and expressed concern over hospital SW visit at first admission and now this one.
• Mom adamant that no one would abuse Makayla.
• Mom reports being with BF five years; is not BFA but has been in her life since very young; says BF has never shown an angry side; no concerns about BF or sitter.
• No DFCS report made based on inconclusive medical findings for NAT and possibility of medical condition.
Discharged 3 days later:

- Cause of seizures/MRI changes unclear
- F/U MRI in 2 weeks
- See neurology in 4 weeks
- Discharged on seizure meds
- Mom to f/u with neurology
14 months later...

- EMS called to home, noted linear abrasions to neck and neck band of shirt around forehead; had to be cut to be removed; heartbeat recovered in ambulance; arrive at hospital 7:15 a.m.; pupils fixed, dilated, no pulse, resume CPR.

- Noted bilateral neck laceration; Mom says pt. scratching at neck, said pt. had 2 seizures yesterday w/o follow up.
MM

• Seizure 2 days prior, back to normal;

• Had seizure while eating FF, fell back from seated position onto linoleum floor; pt. went limp; generally unresponsive but woke up 11 p.m. to use bathroom;
  – Mom last saw pt 11 p.m. breathing comfortably; didn’t check on her through the night;

• Next morning, mom found pt not breathing normally, weak pulse. 911 called, CPR at home.
Exam:
• Linear superficial fresh skin abrasion
• Multiple eczema lesions on knees and arms
• Abrasions on back and butt
• Scratch marks on extremities
• CT shows diffuse cerebral edema.
• Acute SDH right frontal region
• Bilateral RH.
• Poor perfusion; skin cool
• No breathing over vent
• No response to pain; no reflexes
Case 3: BR

- 21 month old healthy boy, developing normally
- Lives with mom and her boyfriend
- Dad had seen day before; no trauma
- Fine with mom during the day, before hospital admission
- Mom goes to work and leaves BR with her boyfriend.
BR

- Boyfriend said BR fell off push 4 wheeler, no immediate injury
- Mom receives text that he has bruise forming
- Receives call from boyfriend’s father saying boy at hospital
- Mom told he fell out of crib. First time climbed out of crib per mom
• When EMS responded, required CPR due to being pulseless
• Exam findings included bruises on nearly every surface of body
• Boyfriend reports a number of falls onto cement in addition to fall out of crib
• CT with cerebral edema, extensive intracranial bleed, scalp hematoma, and parietal fracture
• Injuries not consistent with fall out of crib
Subdural Hematoma
Acute SDH on CT scan
• Scene was not secured immediately. When CPT arrived, boyfriend had returned home to get a special blanket (>1hr trip each way) while pt dying in PICU
Case 4: DB

- 15 month old
- Transferred to PICU after being left alone outside and slipping on some rocks
- Initial history from father was ground level fall on gravel
- Mom gave history of being at work
- Dad history was that boy was left outside for brief period of time, and he fell
• Injuries:
  – Forehead abrasion
  – Black eyes (R>L)
  – Bruising midline soft palate
  – Petechiae on head/neck
  – 3 linear petechial lesions length of back
DB

- Labs showed elevation of liver enzymes
- CT of head showed:
  - Multiple skull fractures
  - Air inside the skull
• Clearly, injuries do not match history
• Re-interview parents
• Needed interpreter
• Mother told history does not make sense
• Breaks down and reveals that neighbor said he was under the truck
• Talk with dad again
• Father initially repeated history of fall
• Said went inside briefly to get something, but unable to say what he went in to get
• Father then broke down crying
• Eventually told of working on hole in parking lot and asking neighbor to watch child when moving truck
• Father described running over child with truck
Case 5: NA

• 15 months old
• Brought in lethargic by mother to ER
• Admitted to PICU, but not on life support
• No seizure activity
• Not found to be dehydrated
• As part of work up for change in mental status (lethargy), CT scan of head obtained
• CT showed SDH and cerebral edema
• Required surgical intervention to relieve pressure inside skull
• After seeing intracranial hemorrhage, child abuse was elevated on differential for lethargy
• Review of medical records show previous visit in same hospital system 5 days earlier for left shoulder swelling.
• History was slip in tub and dad grabbed
• No imaging done
• Released from ER
• SW consulted and interviewed mom
• No disclosure of prior ER visit
• DFCS database queried
• Compared social history mom provided to SW to DFCS information
• In social work history Mom omitted mentioning sibling who was taken into DFCS custody for child abuse for which she and dad are currently on probation
• Full child abuse work-up showed:
  – Retinal hemorrhages
  – Humerus fracture
Case 6: AC

- 12 days old
- Femur fracture
- Spiral
- Hx from dad of “near drop”, caught leg
- Skeletal otherwise normal
- CT normal
- Eye exam normal
• D/C home with plan to follow-up with skeletal in 2 weeks
• At 4 weeks of age, had episode of limpness at home
• Occurred after mom had left the home in order to return a non-functioning video game controller for dad
Exam findings included:
- Bruising on chest
- Bite marks on thigh
- Bruising on back
- Bruising on buttocks
- Retinal hemorrhages

Imaging:
- SDH
- Comminuted skull fractures
- Loss of Gray-white in brain
- Bilateral rib fractures
- CMLs
Corner fractures of wrist
Bucket handle fracture tibia
“Bucket handle”
AC

- Pt expired
Case 7: ZT

- 27 month old
- PICU with head trauma
- Report of being “struck by train”
- Staff disbelieving as patient survived
- Mom had been away from home
- Pt apparently “wandered off”
• Uncle was to watch child
• Mom returned home and child not in house
• Uncle outside looking for child
• Mom went to train tracks and found patient
• Imaging showed minimally depressed occipital fracture with air in skull
• Concern that severity expected with train strike did not correlate with injuries
• Law enforcement spoke with Norfolk Southern
• Engineer reported seeing pt on tracks, unable to stop train in time
• Mom unable to get to home on usual street because train stopped across tracks
• Mom and patient usually walk over tracks to see cousin
Take home messages

• Immediacy of information gathering
• Obtain thorough and detailed history of current event and review previous history.
• Document observations, interactions not opinions
• Continual communication with medical team as more information is learned
• Develop a constellation of findings, based on thorough assessment.