

Question 21 (17 marks) - 6 minutes

A 14 month old boy is brought to your emergency department by her mother, as he has been refusing to weight bear for the last two (2) days after having his leg caught in a car seat strap whilst being removed from his car seat.

X-ray is performed and shown in PROPS booklet ; page 16 .

a) List two (2) abnormalities in his Xray (2 marks)

Tibial metaphyseal fracture or tibial plateau avulsion #, proximal medial tibial fracture, basically anything saying tibia and # I paid

joint effusion or soft tissue swelling

b) What is the name of this finding ? (1 mark)

Metaphyseal corner fracture, classical metaphyseal lesion or bucket handle fracture

c) what is the likely mechanism of this injury (1 marks)

non accidental injury – violent torsion or traction. This # always NAI under 18months

d) List five (5) features on history that may support your diagnosis (5 marks)

- Injuries that do not fit with the developmental age of the child (e.g., if children are not yet independently mobile, they may be unlikely to fall against certain objects). Details of the proposed mechanism of injury may help to determine whether the explanation is compatible with the fracture/injury type and the developmental level of the child.
- A history of trauma inconsistent with the injuries, a changing or inconsistent history, other unexplained co-existent injuries, or previous history of injuries.
- Children known to social services, particularly if parental/carer risk factors are also present.
- Faltering growth.
- Poor parent-child bonding.
- Parental attempts at excusing or justifying the injury inappropriately or blaming a younger sibling or pet.
- Delay in seeking medical treatment for significant injury
- Explanation of injury cause changes over time without apparent reason
- Explanation of injury cause differs between caregivers without apparent reason
- Explanation offered is inconsistent with child's developmental capabilities
- Previous history of child maltreatment in the family (health visitors and social workers may have useful information).
- Domestic violence. Also domestic/marital conflict, and history of violent offending in the family.
- Mental health disorders, learning disability, physical illness or disability in the carers.
- Drug or alcohol misuse in the carers - especially if unstable or chaotic drug misuse.
- Housing or financial problems.
- Disability or long-term chronic illness in the child.
- Single parents, especially if immature or unsupported.
- History of animal/pet maltreatment.

- Children in the care system.
- Some children are vulnerable to being "lost" by the system - for example, where the families are homeless or asylum seekers, or where children are carers or young offenders.

Question 21 (continued)

d) List four (4) other concurrent injuries that you would look for in this child (4 marks)

- Subdural haemorrhages in children <1 year of age [\[12\]](#)
- Bilateral or interhemispheric subdural haemorrhages [\[59\]](#)
- Significant head injury with no explanation of trauma, or with an explanation involving a low fall or trivial injury
- Co-existing apnoea or some other form of acute respiratory compromise [\[59\]](#) [\[60\]](#) [\[66\]](#)
- Co-existing bruising to the head or neck [\[59\]](#) [\[60\]](#) [\[66\]](#)
- Co-existing bruising to the torso [\[59\]](#)
- Retinal haemorrhages [\[60\]](#) [\[66\]](#)
- Rib or long-bone fractures [\[60\]](#) [\[66\]](#)
- Skull fractures other than a simple linear parietal skull fracture [\[59\]](#)
- Seizure without prior history of seizure disorder or fever. [\[60\]](#)
- rib fractures
 - especially posterior ribs
 - may have no overlying bruising
 - although anterior rib fractures can occasionally be caused by vigorous CPR, posterior rib fractures do not occur
 - costochondral junction injuries and/or fractures
- skull fracture: suspicious features include:
 - non parietal skull fracture (a parietal fracture is more suggestive of accidental injury)
 - involves multiple bones
 - diastatic sutures
 - crosses sutures
 - depressed fracture (fracture a la signature)
- scapular fractures
- sternal fractures
- multiple fractures with no family history of osteogenesis imperfecta
- retinal haemorrhage

- torn frenulum

e) List four (4) groups whom you will involve in his ongoing care (4 marks)

1. Child protection services
2. Orthopaedics
3. Social workers
4. Paeds General medicine
5. Radiology (further imagining - nuclear med vs ct etc)
6. GP
7. Child psych
8. Opthamology