

CASE 5

Four month old male born to parents without transportation, poor nutrition status, and living in a basement apartment. Parents had been receiving public aid to care for child. Parents had complained that child bruised easily. Blood work for this issue was described as normal. Mom was breast feeding only with no supplements. On a follow-up well-baby examination x-rays were interpreted as follows:

- A. Posterolateral rib fractures are noted at the 5th and 6th ribs on the right and 7th rib on the left.
- B. The upper extremities demonstrate healing fracture with callus formation of the mid left radius. There are more subacute fractures of the distal radius on the right and distal diaphysis of the ulna on the right.
- C. There is a metaphyseal fracture of the right proximal femur. There is a distal corner fracture of the left metaphysis of the femur. There are bilateral bucket-handle fractures of the distal tibias.

IMPRESSION: Multiple rib and appendicular skeletal fractures of different stages of healing, highly suspicious for child abuse.

CT scan of the head indicated:

Prominent extra-axial fluid along the convexity of the brain on the right measuring 1.5 cm may represent a chronic subdural fluid collection such as a hygroma or chronic subdural hemorrhage. There is a focus of encephalomalacia within the right frontal lobe medially in the subcortical white matter tracts could represent area of old hemorrhage or infarct. No evidence of acute intracranial hemorrhage, mass lesion, mass effect, or territorial infarction. Ventricles and sulci are age appropriate.

There is a bulging anterior fontanelle. There is no evidence of skull fracture. There is no evidence of hemorrhages within the globes.

Outcome: Criminal prosecution followed for aggravated battery to a child. Defendant pled guilty for a 14 year prison term due to being advised he would likely be sentenced to in excess of 40 years. On motion to vacate guilty plea we discovered that the child's parathyroid hormone was 498 pg/ml versus an expected range of 15-55 pg/ml.

Consultation with a physician with expertise in bone disease resulted in a diagnosis of classic rickets resulting from the poor nutrition of parents, low vitamin D status, and extraordinarily high parathyroid hormone levels.