

Case #2 – Fractures in a 22 month old girl

Reviewing the child's history showed she was taken when about 7 months of age by her mother to orthopedics to evaluate a 'lump' at the base of her right thumb. Radiographs of the right thumb at that time were read as normal for age.

At 18 months of age during another orthopedics visit, the family gave the history that the child was going down the slide with her uncle and afterward cried and refused to bear weight on the right lower leg. There were no radiographs done and assessment was probable sprain to "right lower extremity". She was seen again 2 weeks later for follow up of the sprain and her walking seemed to be improved.

Two weeks later at another physician visit, mother gave the history that as she was holding the child's hand and they were climbing stairs, the child slipped and she (the mother) pulled her up by her arm. The child then cried and was refusing to use her right arm. Radiograph at that time showed a "healed fracture of the ulna along the distal shaft". This means the fracture occurred several weeks ago. Even if the arm fracture were acute, this is not the type of injury to be expected from the mother's description. A child being pulled up by their hand/arm as described above (or frequently when crossing the street and stumbling) would more likely have a dislocation of the elbow called a "nursemaid's elbow" not a fracture.

A skeletal survey was requested most likely because of the discrepancy between history and findings of the healing arm fracture. The skeletal survey was interpreted by a pediatric radiologist. The findings were:

1. "Healing fractures of the right radius and ulna. There is also benign appearing periosteal reaction involving the right tibia. Although no definite fracture line is seen, this is concerning for possible healing trauma as well.
2. No acute fractures are seen.
3. Mineralization is normal."

Thus the older (several weeks as described as "healing") fractures of both bones in the right forearm were seen and no recent (less than 7 – 10 days as described as "acute") fractures were found.

The report also describes as seeing an irregularity of the covering of the bone ("periosteal reaction") in the larger of the two bones of the lower leg in the shin area ("tibia") on the right side that did not look like an infection or cancer ("benign") that was "concerning for possible healing trauma as well." This is the same leg bone "right lower extremity" that was painful at the initial orthopedic visit.

The bone is also described as appearing healthy ("mineralization is normal").

Fractures in a child less than 2 years of age in more than one bone first detected when already healing and a history which does not fit with the type or timing of fractures is highly concerning for physical abuse.