



Pathology Biology Section – 2011

G121 Pathologic and Anthropologic Manifestations of Documented Repetitive Blunt Trauma in a Child Abuse Case

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After attending this presentation, attendees will see the pathologic and anthropologic manifestations of repetitive blunt trauma to the ribs of child.

This presentation will impact the forensic science community by illustrating the utility of a collaborative effort in the interpretation of repeated injury.

The child had been in the care of the birth mother for the first six years of his life and had reached all appropriate mental and physical developmental milestones. The mother placed the decedent in the care of the decedent's father (with whom the child had no prior contact) fifteen days prior to his death in the interest of fostering a paternal relationship.

The decedent presented to the Harris County Institute of Forensic Sciences (HCIFS) following his demise at a local hospital. The terminal history, provided to the HCIFS investigator by the father's girlfriend was that the decedent had been repeatedly beaten about the chest by the father for an approximate 8-hour-period. The beating was apparently precipitated by the child's refusal to go to sleep. The father reported that the child began exhibiting seizure-like activity after which emergency medical services were contacted. The unresponsive decedent was transported to the hospital, where he was pronounced six minutes after arrival.

The birth father and his female acquaintance ultimately confessed that the child was beaten in a similar manner for the duration of the two week period during which he was in their custody. They stated that the decedent would be made to sit on his knees, with his arms held up while the father would repeatedly punch him in the left axilla and chest. After several days, the child exhibited pain, and the father began punching the decedent in the right axilla and back. In addition, the female acquaintance admitted to the use of a belt to strike the decedent on the back. The father ultimately stated that he pushed the decedent forcibly into the shower, striking the back of the decedent's head against the wall immediately prior to the onset of his seizure-like symptoms.

Autopsy of the child showed numerous confluent contusions over the decedent's torso, predominantly in the left and right axilla extending down to the flank, the upper chest, and over the mid and lower back. There were numerous abrasions over the extremities. Several contusions were present over the scalp, with brain contusions identified on internal examination. A large fibrous mass lesion consisting of resolving hematoma, granulation tissue, and early callous formation was found in the left upper axilla involving the anterior bodies of left ribs 2-4. There were also bilateral pleural effusions, with 550 cc of serosanguinous fluid in the left pleural cavity, and lacerations of the liver and right adrenal, with marked retroperitoneal hemorrhage. Initial x-rays of the chest showed a heterogeneous mass lesion in the left upper chest.

Per HCIFS protocol, the decedent underwent a complete skeletal examination in search of skeletal injury. This process involved resection of the muscle and periosteum overlying the long bones, ribs, and scapulae. Skeletal trauma was limited to the ribs, and the rib cage was recovered for anthropological analysis. There were multiple series of serial rib fractures displaying morphology consistent with direct impact(s) at the site(s) of the fractures. The fractures were in varied stages of healing, ranging from acute fractures with sharp margins and no visible callus formation to the presence of large, disorganized soft calluses overlying complete transverse fractures. The array of skeletal injuries was consistent with repeated impacts to the anterior and lateral chest.

This case provides a unique view of the effects of repetitive blunt injury directed to specific regions of the body over the span of two weeks, and the physiological consequences of such trauma to both bone and soft tissue. It also illustrates the utility of a detailed terminal history in the interpretation of blunt force injury.

Repetitive Injury, Blunt Trauma, Child Abuse