



Pathology Biology Section – 2007

G32 Subdural Hemorrhage, Subarachnoid Hemorrhage, and a Healing Tibia Fracture: Abuse or Complications of Leukemia?

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The goal of this presentation is to discuss the natural diseases that may mimic inflicted trauma and discuss methods of differentiating natural disease from neglect and inflicted trauma.

This presentation will impact the forensic community and/or humanity by highlighting issues related to pediatric autopsy and findings that may obscure cause and manner of death. A better understanding of ways that natural disease can mimic inflicted trauma will better enable forensic pathologists to avoid inaccurate diagnoses.

Objective: Child fatalities due to natural disease vs. abuse and/or neglect are challenging forensic autopsies.

Case Summary: A two-year-old boy was found dead in his foster care bed. He was receiving treatment with L-asparaginase and steroids for acute lymphoblastic leukemia. In the weeks prior to his death he became increasingly weak and had several falls witnessed by therapists and family members. In the days prior to his death he had marked thrombocytopenia.

Autopsy revealed acute small cerebral subdural and subarachnoid hemorrhage, and superior sagittal sinus and cerebral venous thromboses, a healing tibial compression fracture and extensive bronchopneumonia. There were no retinal or optic nerve sheath hemorrhages.

Discussion: Although subdural and subarachnoid hemorrhages in children are suggestive of inflicted injury, correlation of the medical history with autopsy findings in this case indicated that the neuropathologic findings were likely a result of minor trauma associated with underlying leukemia and treatment effects. L- asparaginase has been associated with abnormal blood clotting. Careful review of a decedent's medical history and correlation with autopsy findings is crucial to distinguish inflicted trauma from accidental trauma, and from natural disease processes that mimic trauma. The cause of death in this case was certified as complications of acute lymphoblastic leukemia and the manner of death was certified as natural.

Thrombosis, Neuropathology, Pediatric