



Pathology Biology Section – 2006

G69 An Unusual Case of Child Head Injury by Coat Hanger

*Biagio Solarino, MD**, Sezione di Medicina Legale - Di.M.I.M.P. Università degli Studi di Bari - Policlinico, Bari, 70125, Italy; *Amy M. Burrows-Beckham, MD*, Office of the Chief Medical Examiner, 810 Barret Avenue, Louisville, KY 40204; and *Kathy Recktenwald, RN*, Clinical Forensic Medicine, University of Louisville, 810 Barret Avenue, Louisville, KY 40204

After attending this presentation, attendees will understand the value of a multidisciplinary team, composed of clinical forensic medicine specialists, and law enforcement, in the management of injured children.

This presentation will impact the forensic community and/or humanity by demonstrating the value of crime scene reconstruction coupled with the evaluation of physical evidence in determining the factors in equivocal child abuse and neglect investigations.

The question of natural disease process versus accidental injury versus inflicted injury is the central issue involved in a clinical forensic investigation. The physical findings in the infant or child must be correlated with the history provided by the caretaker, as well as milestones achieved by the infant or child. Injuries affecting specific frontal locations, such as the forehead, nose, chin, palms, and knees, are often the result of accidental events secondary to children playing or falling. For these kinds of injuries, the examiner must have an open mind that the injury could be the result of an unintentional event, instead of a horrible episode of domestic violence.

The Clinical Forensic Medicine team in Louisville Kentucky is routinely consulted in a variety of cases of presumed child abuse and neglect. The authors present a case of a 2-year-old female who was brought to the Emergency Department with a large stainless steel hanger embedded in her left frontal region, between the orbit and the bridge of the nose. She was conscious, alert and moved all extremities. A lateral radiograph of the head demonstrated a foreign body embedded in the frontal region of the skull for approximately 2cm. A CT scan of the head demonstrated a U shaped body entering the frontal bone with probable fractures of the cribriform plate and crista galli, a small interhemispheric subdural hemorrhage and a left frontal subdural pneumocephalus. There was no injury to the left globe or nasolacrimal duct.

She was taken to the operating room where the curved part of the hanger was removed and the injured brain was derided. The ethmoid bone and shredded galea were repaired. After a five-day admission, she was discharged to home with a CPS approved caretaker. After examination by the Clinical Forensic Medicine team, coupled with home inspection and interviews by the local police, it was possible to reconstruct the child's injury.

The parent's, who are not married, were reported to be arguing. The child's mother stated that when she had her back turned to the father, he is reported to have thrown a hanger, with the intention of hitting the mother. Instead, the hanger hit his daughter, who was playing on the floor.

The investigators were uncertain whether the hanger was thrown from several feet across the room or if it was directly applied to the child's skull. The tool was a large caliber, stainless steel hanger measuring approximately 4 by 4 millimeters in thickness, while the U-Shaped angle measured approximately 3 centimeters. Experiments conducted by the police using a similar hanger and double-up pieces of cardboard demonstrated the Ushaped portion of the hanger penetrated the cardboard six inches deep or more, when thrown from the same distance the father stated he was from the child. The crime scene investigation pointed out that there were other hangers on the floor, manufactured of plastic material, and the one used was the only stainless steel, large caliber hanger present in the room.

The findings of the physical examination, the scene investigation with interviews of the parents, and the reconstruction of the incident support the conclusion that the injury to the child was inflicted.

In conclusion, diagnosing child abuse is a complicated issue. When the injuries are uncommon and involve specific parts of the body, such as the frontal plane, the examiner has to eliminate the potential of an accident. The combined efforts of a multidisciplinary team serve a primary role in the management of domestic violence and child abuse cases.

The present case represents a very unusual case of domestic violence, with child head injury using a stainless steel hanger. Unfortunately, this is only another incredible report about how abusers carry out their harmful acts.

Coat Hanger, Child Abuse, Pediatric Head Injury