



Pathology Biology Section – 2007

G106 Pattern of Injury in Child Fatalities Resulting from Child Abuse

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After attending this presentation, attendees will understand some of the contributing factors and demographic characteristics in child fatalities due to abuse.

This presentation will impact the forensic community and/or humanity by assisting the forensic community/humanity in identifying key elements in maltreatment child fatalities.

When evaluating injuries in young children, physicians should consider nonaccidental trauma as an etiology of trauma. According to the U.S. Department of Health and Human Services, in 2002, an estimated 1,500 children died of maltreatment. Of these, 36 percent were as a result of neglect, 28 percent were victims of physical abuse, and 29 percent were due to multiple types of maltreatment. In 2003, children younger than four years old accounted for 79 percent of all maltreatment fatalities, with 44 percent of these deaths occurring in infants (DHHS 2005). The purpose of this study is to further examine the pattern of bony injuries in child maltreatment fatalities, with an emphasis on the prevalence of antemortem fractures and the presence of associated perimortem fractures. The sample was 130 male and female children, ages 0 to six years of age. The majority of the data were collected from the case files of the NC Child Fatality Prevention Team at the Office of the Chief Medical Examiner in Chapel Hill North Carolina (n = 120). An additional ten cases were included from the Charleston County Coroner's Office, Charleston, SC. Six age categories were used in this study: 1 (0 -3 months), 2 (4 - 6 months), 3 (7 - 9 months), 4 (10 - 16 months), 5 (17 months - 2 years), 6 (2 - 6 years). Each individual's lesions were documented and categorized into one of four general body loci (1 = craniofacial, 2 = thoraco/abdominal, 3 = other, 4 = multiple). The prevalence of trauma and distribution of injury patterns were tested for independence and significance for biological and demographic categories (e.g. age, sex, race, month of death) using simple frequencies and Chi-square tests. In this study, the peak age categories of death were 0-3 months (23 %) and two - six years (21.5 %), with 50 percent of deaths occurring in infants nine months old or younger. The two different age categories could reflect newborn stress and coincide developmentally with toddlers seeking independence, respectively. Black males were the most numerous victims. Deaths occurred most often in the month of December. The body locus most frequently affected was the craniofacial area, 55 percent, usually the result of blunt force trauma (abusive head trauma). Notably, ante- or perimortem fractures were not usually associated with known abuse deaths. In this study, eighty percent of the cases did not show any antemortem fractures. Thus in cases of suspected abuse, radiographic skeletal surveys may not be an effective method for identifying or predicting the possibility of abuse, which suggest that current detection techniques need to be reevaluated.

Child Abuse, Fatalities, Injury Pattern