



H2 Variations in Postmortem Perianal Findings in Infants: A Retrospective Review of Non-Traumatic Abnormalities and the Potential Diagnostic Pitfalls in Determining Trauma

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Learning Overview: The goals of this presentation are to provide a reference for the forensic examiner to aid in an accurate and systematic approach to identifying non-traumatic perianal abnormalities of infants and to demonstrate the potential diagnostic pitfalls in determining the presence of trauma.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by improving the ability to distinguish between non-traumatic and traumatic perianal findings in postmortem examinations of infants.

The forensic pathologist's objectives in performing postmortem examinations include determining the cause and manner of death and identifying and documenting injuries, evidence of abuse, and neglect; these are particularly crucial in the deaths of vulnerable individuals, such as the elderly and young children. Postmortem examinations of children, particularly infants, require an additional level of caution when interpreting findings due to the susceptibility of this demographic to abuse and the medicolegal implications involved. Examination of the anogenital region is of particular importance in that identification of injuries in this area may suggest the possibility of sexual abuse and prompt additional intervention, especially when other children remain in the household.

Identification of anogenital injuries and evidence of abuse in antemortem and postmortem settings may be complicated by a variety of non-abuse related conditions, lesions, or congenital abnormalities. For example, a history of recent constipation or diarrhea, diaper rash, infection, and Hirschsprung's disease can all present with findings that mimic signs of abuse. The postmortem examination of the anogenital region is further complicated by postmortem changes that mimic traumatic or exaggerate non-traumatic abnormalities, raising suspicion for trauma. These changes include dilatation of the anus, augmentation of perianal fissures secondary to anal dilatation, and discoloration of the anogenital skin and mucosa. Anal dilatation, in particular, is a common non-specific postmortem finding, especially in infants. It may be the result of postmortem relaxation of the anal sphincter or it can represent previous anal penetration; therefore, proper identification and interpretation of such findings is necessary.

Photographic documentation is an essential component of the postmortem examination and serves as a digital collection of evidence. In this study's office, examination of unexpected or unexplained infant deaths includes photographic documentation of the anogenital region. In order to document the appearance and prevalence of non-traumatic perianal abnormalities, and to correlate their incidence with additional investigative and autopsy findings, a database of infant autopsy photographs was created. This database includes the perianal photographs of both male and female infants one month to six months of age, taken over a ten-year period from 2010 to 2020. Images will be presented that best highlight the variations in non-traumatic postmortem perianal findings. Photographic examples of findings due to sexual trauma will also be presented for comparison.

Postmortem Findings, Child Abuse, Autopsy