



F52 Case Study: Morphometric Analysis of Multiple Bitemarks Observed on an Infant

Charles E. Georget, PhD, 5 Rue Voltaire, Amboise 37400, FRANCE; and Aime H. Conigliaro, MA*, 1 Boulevard Theophile, Sueur 93110, Rosny-sous-Bois, FRANCE*

After attending this presentation, attendees will understand the interest of a thorough analytical process concerning the morphometric analysis of bitemarks on the one hand, and the implementation of derived technical procedures, as far as the dental impression-taking is concerned, on a young child on the other hand.

This presentation will impact the forensic science community by bringing appropriate methodological solutions to children suspected of having committed bites. First, the methodology undertaken allowed a dental impression on a young child suspected of being the biter to be obtained. Secondly, the digitized pictures of the suspect's dental impressions were used for each of the unproven bitemarks by applying a specific protocol.

The methodology put in place for this experience presents a double interest: First, it explains the adjustment of a protocol of dental impression-taking on a young child suspected of having committed several bitemarks on an infant who was found dead. Second, this methodology describes a simple protocol of morphometric analysis of bitemarks by superimposition of the dental impressions of the alleged biting child on the different bitemarks found on the victim's body.

The examination of the infant proposed to count and locate the injured sites, to record the existence of bitemarks on the young victim, and to draw up the damage assessment. Photographs of marks observed on the victim were taken. No tissue sampling was made in order to respect the physical integrity of the infant.

For each of the marks observed on the infant's body, the following questions were raised: (1) is the injury a bitemark?; (2) is it a human bite?; (3) do the age and the appearance of the injury correspond with the alleged assault and the time when this assault had been committed?; (4) does the bite show usable characteristics?; and, (5) may these characteristics be compared with the teeth of the potential suspects. For each mark, an answer has been given by referring to the levels of trust of the guide of the American Board of Forensic Odontology (ABFO).

Because of the very young age of the suspect, the regular techniques regarding the taking of dental impressions on could not be applied. The choice was made to take impressions by a bite impression on a soft dental wax. Afterwards, these impressions were cast into silicone.

To be able to come to a decision, the verbal scale of EVERETT was used. It sets down the notion of hypotheses that must be studied in accordance with at least two alternatives: (1) the alleged attacker has committed the assault; and, (2) another person than the alleged attacker has committed the assault.

Conclusion: The bitemarks' characteristics have been compared with the suspect's teeth. A specific protocol necessary to taking dental impressions on a very young child had to be put in place. Another classic specific protocol was put in place for the comparison of the marks/impression data.

Eventually, all of these data were treated by referring to the verbal scale of EVERETT, which allowed putting forward a considered and logical conclusion.

Bitemark, Child Abuse, Postmortem Exam