



G13 Paradigm Shifts on the Validity of Bitemark Evidence and the Dramatic Connection With Best Practices in Forensic Technical Analysis Via the Poma Murder in Rome: A Case Report

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After attending this presentation, attendees will have an understanding of the Italian judicial penal system and the appointing of expert witnesses in court.

This presentation will impact the forensic science community by highlighting the importance of specialist training in forensic science and medicolegal doctrines for dentists before involvement in any lawsuits.

Medicolegal evaluation in civil and penal cases of dental and/or odontology case works require expert witnesses with biological and technical knowledge of dentistry and a sound medicolegal education and experience. During the 2013 International Organization of Forensic Odonto-Stomatology international congress in Florence, Italy, the civil law judicial system on the designation of expert witnesses in six states were investigated, highlighting the need to work toward harmonization with more rigorous standards to become eligible as an expert witness in court, preventing spontaneous involvement of dental practitioners, and to improve their forensic and law teaching. These issues are even more relevant to penal case works.

In this presentation, a 20-year-old homicide cold case with a pattern injury suggestive of partial bitemark evidence is presented. Raniero Busco was accused of having murdered Simonetta Cesaroni, his ex-girlfriend, on Via Poma in Rome in 1990. A pattern injury on the breast of the victim was assessed as a “bitemark” by the forensic pathologist performing the autopsy. After 18 years, the case was reopened for new DNA analysis and the pictures of the “bitemark” on the breast were re-evaluated by dentists, pathologists, and odontologists. The injury suggestive of a partial bitemark is presented, demonstrating the concerns around the paradigm shifts on the validity of bitemark evidence and the dramatic connection with the technical analysis which is applied. The Italian judicial penal system and the analysis of the expert witnesses are presented. Questions and concerns on quality assurance and the criteria of forensic analysis of patterned injury are raised. Raniero Busco was found guilty in the first trial in 2011 and sentenced to 24 years in jail; he was subsequently acquitted on appeal in 2012. The acquittal of the accused was confirmed by the Supreme Court in 2014, which turned down the appeal by the Attorney General.

The purpose of this presentation is to promote a discussion within the dental community about who should perform forensic analyses in order to reduce errors and observer bias. The responsibility of forensic experts is to emphasize to colleagues who want to work within the judicial systems that forensic cases must follow precise legal, ethical, and scientific rules, which go beyond everyday dentistry and training. Pitfalls and errors can lead to erroneous attribution of responsibilities in professional liability cases and faulty accusations of innocent people. Dentists without specialist training should refrain from involving themselves in such lawsuits, leaving expert witness testimony to those dentists qualified in forensic sciences and medicolegal doctrines.

Bitemark Analysis, Forensic Odontology, Expert Testimony