Contribution of Odontologist´s specialized knowledge on human identification process at Brazilian forensic institutions

Vanessa Ribas e Silva [1]

Andrea Sayuri Silveira Dias Terada [2]

Ricardo Henrique Alves da Silva[3]

[1] Specialist in Forensic Dentistry at the Ribeirão Preto School of Dentistry, University of São Paulo (FORP-USP) Brazil
[2] Master Degree and Specialist in Forensic Odontology at the School of Dentistry of Ribeirão Preto (FORP) - University of São Paulo (USP), Brazil.
[3] Forensic Odontology - School of Dentistry of Ribeirão Preto (FORP) - University of São Paulo (USP), Brazil;

Corresponding author:
vrsodonto@gmail.com

POSTER PRESENTATION

ABSTRACT

Forensic Odontology integrates the forensic sciences. It works in the interest of justice and it involves the right handling, evaluation and presentation of dental evidence. The dentist's scope at Brazilian expertise official Institutes must be restricted to only analysing dental data, but it can be extended to other areas if circumstances so require.

The aim of this study, based on a wide bibliography, was to present the role of forensic dentist as a member of the official framework of expert performance, highlighting his contributions, peculiarities and importance. Their most known duty is related to the human identification process since dental characteristics are unique and the teeth represent the more resistant tissue of the human body. So, it includes not only the comparison of the odontological features but also adequately extraction of genetic material for DNA analysis when there is no other way to achieve an identification. When the unknown individual presents no teeth, the palatal rugae pattern may be useful. If there is no trace of the deceased's identity, the dentist can establish a dental anthropological profile, based on skull's bones and teeth, by means of determining sex and estimating age, stature and ancestry. Bite marks are likely to be noted on the skin of both the victim and the aggressor in cases of sexual assaults and child abuse, and frequently they are disregarded by a non-dentist. Besides that, bite marks and lip prints may be observed in crime scenes. Those marks can lead to a suspect or even exclude one, either by the physical aspects or by the biological material that can be extract from them. Furthermore, an Odontologist is probably the more indicated professional to manage some facial recognition technology.

It was possible to observe the outstanding pertinence of Odontology on criminal sphere besides the unanimous agreement on its vital part in the official forensic Institutes. A multidisciplinary approach with dentist as a part of expert team means great influence to determine the success of an investigation, which is reliant on the Odontologist's specialized knowledge to interpret the evidences properly. Even though, this situation is not common in many Brazilian forensic institutions and it probably implies lack of proper technical and scientific analysis and underevaluation of available evidences. Despite numerous published papers on this theme, new researches challenges include improvement in the accuracy of parameters in order to minimize some limitations.