F38 Identity by Teeth: Odontological Identification in Milano

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After attending this presentation, attendees will see the importance of odontological methods in personal identification, through an analysis of over 400 cases of unknown decedents examined at the medicolegal institute in Milan.

This presentation will impact the forensic science community by showing the importance of odontological methods of identification in comparison with genetic testing.

The reality of decedents without valid identification is actually not well known in Europe. The lack of information concerning the problem of unknown decedents and the absence of common guidelines in order to make easier the recording of data useful in personal identification procedures are the main limits in the attempt at identification. In Italy, as in other European countries, there is no official data on the quantity of unknown decedents only in Milano in the last twelve years, 80 cadavers/human remains still remain unidentified. This is mainly due to the lack of an antemortem and postmortem database concerning missing persons and unknown decedents respectively. The Ministry of Internal Affairs is drafting a law for this purpose but the project is only at its beginning.

In theory, when a possible match is performed between an antemortem and postmortem profile, then genetic testing, odontological, and anthropological methods can be used for identification. Fingerprint analysis is reliably and easily performed, but requires that the fingerprint profile of the individual is recorded, which occurs in Italy only if the subject is arrested by police forces. Genetic methods allow one to perform a specific identification, but they need a parent in direct line or DNA material from the missing person. Anthropological methods are based on the comparison between bone structures and are easy to be performed; however, with the frontal sinus comparison, the final result is difficult to evaluate and cannot always supply a definite judgment. Odontological methods are based on comparison between the dental profile from the missing person and that of the unknown decedent. They are easily performed and usually give satisfactory results, thanks to the wide inter-individual variability in shape, position, pathologies and treatment characteristics. This presentation aims at illustrating the importance of odontological methods in personal identification through an analysis of over 400 cases of unknown decedents examined at the medicolegal institute in Milan. Since 1995 LABANOF, Laboratorio di Antropologia e Odontologia Forense, has recorded data of unknown decedents who underwent autopsy at the Insitute of Legal Medicine. The number of unknown decedents between 1995 and 2007 amounts to 420 individuals, 3% of all dead people which underwent postmortem examination during the period of observation (13814 subjects). Among the 420 cases, 64% reached a positive identification, whereas 17% had no name (others have “aka”s which have to be assessed by the police, as in the case of illegal immigrants who give false identification). For the cadavers identified which were badly preserved, odontological methods were the most successful (25%), followed with anthropological ones (23%) and then by DNA (5%). The reason behind this is that clinical and non-clinical dental antemortem data is easily recovered and the methods are quicker and cheaper. This presentation has therefore strengthened the importance of odontological methods as a valid and reliable personal identification procedure. Four cases in particular are presented: the first in which a skeleton found at the bottom of a lake could be identified only by dental restorations visible in an antemortem thoracic x-ray; a second case of a burned body where odontological methods cleared up a genetic “error”; and two cases in which the decedent had no clinical dental data but dental superimposition with an antemortem photograph was successful in one case and visibility of restorations in non clinical pictures came in useful in the other.

Forensic Odontology, Forensic Anthropology, Personal Identification

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