G47 Identification of Charred Victims

Aime Conigliaro, MSc, IRCGN, Caserne Lange, 5 Boulevard de l'Hautil, Pontoise 95300, FRANCE; and Charles E. Georget, PhD, 45 Quai Charles Guinot, Amboise 37400, FRANCE*

After attending this presentation, attendees will understand the value of applying a strict protocol for different phases of charred victim identification. For road accidents and air disasters, data synthesis was conducted during dental examinations.

This presentation will impact the forensic science community by illustrating that, even within the same accident, the techniques used to preserve the maxillaries, to examine dental arches, and to photograph and radiograph the heads of charred victims are specific for each victim. Carbonization of the victim differs with the length of exposure to the flames.

The soft tissues are very poor thermal conductors. The adipose tissue of the hypodermis will burn, but is a fuel quickly exhausted. In fact, human tissues are combustible only if they are kept in contact with fire. Several types of carbonization are described. Of these types, accidental carbonization takes a special place because it is very often present after aircraft disasters and road accidents. Observations reveal that the state of the body depends on the temperature of the heat source, on the location in relation to the heat source, and on exposure to flames. In one and the same fire, the variable extent of sometimes extensive carbonizations leaves bodies with different stages of preservation.

Whatever the degree of carbonization, it is observed that the dental system is usually well-protected by surrounding soft tissues and hard tissues, and the teeth have particularly good resistance to fire due to their high degree of mineralization; however, the high temperatures and direct action of the flames have some destructive effect. It follows from these findings that the dental system is the structure of choice for the identification of charred victims, while in extreme carbonizations the use of DNA analysis may be impossible.

Common carbonization phenomena have resulted in the development of procedures for identifying charred victims. Several studies have led to the establishment of a classification of the degrees of carbonization of the head and teeth and the standardization of examination protocols for each degree of carbonization.[1-3]

After explaining the establishment of appropriate protocols for dental identification of charred bodies in disasters, case studies will be presented.

The results illustrate that the percentage of dental identifications of charred victims is high, and this type of identification should usually be attempted first.

Reference(s):

1. Georget C., Laborier C. *Classification of degrees of carbonization of the head and teeth.* Communication in a French Association Congress of Dental Identification (AFIO). 2004.
2. Georget C., Conigliaro A., Schuliar Y. Dental Identification of Carbonised Victims. *Journal of Forensic Medicine Institutes*. SeriesA – Issue n°1, pp 43-50 (2014).
3. Georget C , Conigliaro A., Schuliar Y. Etat des restes humains Identification dentaire: Procédures et techniques. *Les Cahiers d'Odontologie Médico-légale - Editions Atlantique.* Pp 35-44. (2015).

Identification, Char, Disaster

Copyright 2017 by the AAFS. Unless stated otherwise, noncommercial *photocopying* of editorial published in this periodical is permitted by AAFS. Permission to reprint, publish, or otherwise reproduce such material in any form other than photocopying must be obtained by AAFS.