

Orthodontic records as source of morphological dental identifiers: an uncommon forensic case report

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ABSTRACT

Procedures related to the identification of charred, putrefied and skeletized bodies are performed routinely in Brazilian medico-legal institutes as a reflection of the high rates of violent deaths of the country. Forensic Odontology plays an important role in human identification especially when the antemortem (AM) dental records of the missing person are available. Orthodontic records, such as photographs, radiographs and dental casts, provide information useful for identification purposes because it may reveal important morphological, therapeutic and pathological dental identifiers. During the orthodontic treatment, several dental traits may be modified in the search for optimal aesthetic and functional outcomes, such as the alignment of crowded teeth. These therapeutic corrections may constitute explainable differences found during the human identification exam. However, the human identification may rely in other identifiers for more reliable outcome. Among these identifiers, the brand, type and position of orthodontic appliances figure as distinctive tools for human identification. In this context, the present study aims to report an uncommon case of identification of a putrefied body, found near to a forest region in the State of Goiás, Brazil. The postmortem (PM) exam showed that the victim had two teeth missing PM, while all the remaining teeth were sound. Additionally, the victim had part of a fixed orthodontic appliance installed in the maxillary and mandibular dental arches. To identify the body relatives of the potential victim presented orthodontic exams containing panoramic radiography and photographs of the orthodontic treatment. The body was identified based on the analysis of the radiographs and photographs that confirmed the presence of the orthodontic appliances observed PM. More specific, the identification was supported by the analysis of bracket bonding position of the maxillary and mandibular incisors and the presence of distinctive morphological traits of the canines and incisors, as well dental roots observed radiographically. The present case report highlights the importance of orthodontic records as source of morphological dental identifiers for cases in which only sound teeth are available.