F22 Additional Postmortem Dental Findings

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Following this presentation attendees will: (a) understand the importance of postmortem dental profiles in the identification of found human remains, (b) understand the importance, prevalence, incidence and presentation of features of the dental hard tissues likely to assist in profiling the individual, and (c) be aware of that such findings are indicators and should be combined with other features to develop a full profile.

The use of the unique features of the human dentition to aid in personal identification is well accepted within the forensic field. Indeed, despite advances in DNA and other identification methodologies, comparative dental identifications still play a major role in identifying the victims of violence, disaster or other misfortune. The classic comparative dental identification employs the use of postmortem and antemortem dental records (principally written notes and radiographs) to determine similarities and exclude discrepancies. In many cases the tentative identification of the individual is unknown and therefore antemortem records cannot be located. In such a situation a dental profile of the individual is developed to aid the search for the individual's identity. With such a profile a forensic odontologist can identify and report indicators for age at time of death, race (within the four major ethnic groups) and sex. In addition to these parameters the forensic dentist may be able to give more insight into the individual. This presentation outlines some of the additional personal information that can be derived from the teeth of the deceased, and which may assist in their ultimate identification. With extensive illustrative examples, a review of the recent literature provides many additional findings beyond those usually considered by forensic dentists.

The purpose of the postmortem profile is to provide information to investigators that will restrict the search to a smaller population of individuals. For example, by profiling the sex of the individual 50% of the possible population can be excluded. Forensic odontologists can usually determine the sex, race (within the four major races), and age (at time of death) from careful study of the teeth, their anatomical arrangement and the skull's osteological features. In addition to the parameters described above, odontologists may be able to provide information on the individual's habits, occupation, and likely place of residence, medical history and socio-economic status. The presentation illustrates these 'additional dental findings', explaining the various aspects of the dentition that may assist in a postmortem profile. It is important to note that additional dental findings are merely indicators. Few of them offer definitive proof. However, faced with an unidentified individual, any information that may help in the search for their identity is likely to be useful. The presentation concentrates on those features visible on the hard dental tissues only – it is unlikely that diagnosis of soft tissue conditions would be possible with the body types typically requiring postmortem profiles.

Using a MedLine search, the following areas were reviewed for possible dental indicators: a) occupational diseases of the teeth, b) medical conditions and drugs, c) habits, pastimes and lifestyles, and d) abnormalities of tooth form and structure. Over 100 articles were examined and an image database consulted in order to provide clinical examples. These will be presented to attendees along with details of incidence, prevalence and associated forensic significance.

With the increase in international travel, immigration and refugees there is a potential for a rise in the number of postmortem dental profiles which odontologists will be asked to perform. The assessment of the dental tissues for indicators likely to reduce the pool of possible antemortem records is of use in both individual and multiple fatalities. While recognized that none of these features will identify an individual alone, they represent an important part of the odontologist's armamentarium. The presentation will also be of value to odontologists, pathologists, and anthropologists.

Odontology, Postmortem Profiles, Identification

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