F8 Dental Identification in a Maxillary Edentulous Individual Missing for Seven Years

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After attending this presentation, attendees will understand how identification of an unidentified decedent is often a collaborative effort between the forensic odontologist, forensic anthropologist, forensic pathologist, and law enforcement.

This presentation will impact the forensic science community by showing how a positive identification by the forensic odontologist and anthropologist can be made utilizing an edentulous skull.

On February 15, 2013, a man hunting for deer antlers found an edentulous skull with no mandible in a wooded area of Brownstown Township, Michigan. The only missing person in this community disappeared in 2007 under suspicious circumstances. At the time of her going missing, her home was set on fire and her luggage was found in her vehicle, which was also set on fire. Law enforcement has long suspected her husband in her disappearance, which they believed was a result of foul play. After the disappearance, law enforcement opened an investigation into his first wife's death, initially believed to be an accidental fall. The husband is currently in prison serving time for sexually assaulting a mentally disabled woman and for the 1990 killing of his first wife, for which he had been convicted of second-degree murder. He denies any involvement in the disappearance of his second wife.

At the time of the initial investigation by law enforcement in 2007, the Brownstown Lt. Detective Robert Grant recovered a maxillary complete denture at the fire-ravaged home. The detective went to the missing individual's dentist and received a written statement that this denture was the missing women's. The victim was recently evaluated in his office for a crack in the denture. The detective also received and stored all missing individuals' dental records since 2007.

Upon examination of the skull by the forensic anthropologist, a biological profile was developed. This skull was determined to be that of a Black female, age 35- to 50-years-old. A maxillary torus and right temporomandibluar joint abnormality was documented.

Upon review of the dental records and examination of the skull by the forensic odontologist, a positive identification was made. This was based on the shape of the large and atypical maxillary torus, having been reduced and flattened by an oral and maxillofacial surgeon before the fabrication of the denture. This shape was reflected in the previously identified complete denture. The antemortem dental radiographs from the dentist also showed a large radiolucency at the apex of tooth #6, the maxillary right cuspid. This was also seen in the skull. Finally, the antemortem panorex showed some bony changes on the right mandibular condyle which corresponded to the right temporomandibular joint abnormality seen in the skull.

A week later, law enforcement and the forensic anthropologist returned to the area to conduct another search. At that time, the mandible and additional skeletal remains were recovered. The existing mandibular teeth were then compared to the antemortem dental records and once again the identification was confirmed. The right condyle had the same abnormality seen on the skull and the antemortem panorex.

This case reinforces the collaborative effort of law enforcement, forensic odontology, forensic pathology, and forensic anthropology in the identification process.

Dental Identification, Edentulous, Maxillary Torus Palantinus

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