



Odontology Section - 2016

G50 The Odontologist's Role in Death Investigation in Cases of Deaths After Dentistry

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After attending this presentation, attendees will understand the role of the expert forensic dentist in assisting the death investigation team in examination of means, manner, and cause of death in cases in which death has occurred close to the time of dental procedures.

Deaths in the course of dental treatment are rare; however, from time to time, the odontologist, as a practicing dentist and a member of the death investigation team, will be called upon to provide an opinion as to the appropriateness of care prior to, during, and following a patient's demise. This presentation will impact the forensic science community by highlighting input of the odontologist who, in these cases, assists the forensic pathologist in establishing the means and manner of death.

"There are known knowns – things we know we know. There are some things we do not know. And also unknown unknowns – the ones we don't know we don't know."

Donald Rumsfeld

Some people die as a consequence of "known knowns." In one review of 5,000 orthognathic surgery patients, there were 20 fatalities. The causes were multifactorial. One young man died days after the surgery. The forensic odontologist attended the autopsy to assess radiographic images and clinical aspects of the autopsy as it applied to the particular orthognathic procedure, in an attempt to assess whether anything was amiss. The procedure was competently performed, fixation plates were in place, and there did not appear to be any oral surgical issues. Autopsy revealed parapharyngeal hemorrhage leading to death. This case demonstrates that when death is even remotely possible after a given procedure, heightened patient monitoring is justified.

Death also may occur as a consequence of mismanaged dental infection, so-called "known unknowns." Dental infections can resolve with minimal clinical care, or they can lead to serious, rapidly progressing, even fatal consequences. A 19-year-old male visited his dentist with jaw pain and swelling. The dentist placed him on antibiotics. The young man ultimately went to an Emergency Room (ER) at a major urban hospital. What began as a simple dental infection rapidly progressed to Ludwig's angina. The admitting diagnosis in the ER was Ludwig's angina, and this was the stated cause of death. The main issue facing the forensic odontologist was that no additional treatment was rendered as the disease progressed and, when the patient developed severe air hunger, a "violent patient code" was called instead of a medical emergency code. The patient went Vital Signs Absent (VSA), and despite attendance by the cardiac arrest team and aggressive Cardiopulmonary Resuscitation (CPR) efforts, the man died. The forensic odontologist in this case was contacted by the coroner to review all pertinent records as part of the coroner's investigation. Issues were identified involving staffing, triage, providing treatment that matched the diagnosis, and substandard care by some staff and the institution.

Then there are cases of "unknown unknowns." A woman had visited the dentist on numerous occasions during several months for root canal treatment and major restorative reconstructive dental care. Her final appointment was for a simple crown cementation and the procedure was uneventful. The woman was discharged by the dentist but became unwell, experiencing burning pain in the center of her back while in the waiting room. She never lost her pulse or breathing. The dentist called 911, placed the patient in the dental chair, administered oxygen, and stayed with the patient until Emergency Medical Services (EMS) arrived. She died a few days later. The forensic odontologist was called to review the nature of the dental work. The family was concerned that the patient was receiving "implants" before her death, and believed that the stress of this surgical procedure led to her death. The forensic odontologist was asked by the forensic pathologist to provide context regarding the relative stresses of the dental procedure. The autopsy showed that the woman died of a dissecting aortic aneurysm, which could have occurred at any time and in any place.

Dentistry, Death, Odontology