

Forensic Human Identification

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Introduction

The purpose of this study was to investigate overkill in the Greek population from a criminological and victimological point of view and explore possible correlations of the phenomenon with sociocultural or psychiatric factors. Overall, 158 autopsies of overkill victims were identified throughout the 15-year records of the national forensic laboratories throughout the northern Greek mainland. The pattern that has emerged from the statistical results of the present study on the victims of overkill within the Greek borders was generally in line with global statistics on homicide victims, but also presented differences. The phenomenon correlated more with homicides in the context of mental disorders (within schizophrenia spectrum), other crimes (such as burglary) as well as domestic violence. Overall, males outnumbered females both as victims (approximately threefold) and as perpetrators in overkill homicide cases, but regarding domestic violence, the sad majority of overkill victims stood for females murdered with excessive violence by male relatives.

Close female relatives (especially mothers and grandmothers) were also victimized by psychiatrically ill offenders. Female perpetrators tended to attack male individuals with whom they shared a relationship (intimate partners). An important finding was the fact that less than half the offenders' population with major mental disorders were diagnosed at the time of the offense. Overkill victims were found, on average, to be older than average homicide victims, being probably associated with the entailed difference in the physical strength ratio between the victim and the perpetrator. Percutaneous tracheostomy is commonly performed in the emergency department or intensive care unit to secure the airways of patients. This procedure is associated with a low incidence of complications; however, some of them, such as iatrogenic pneumothorax, can be fatal. Pneumothorax after percutaneous tracheostomy is most often caused by perforation of the tracheal wall or malposition of the cannula. A woman in her 80s was referred to the emergency department owing to persistent and prolonged coughing. Having

speculated that she had acute epiglottitis, and having failed to achieve oral tracheal intubation.

The physician performed a percutaneous tracheostomy to secure her airway. However, progressive percutaneous emphysema developed immediately thereafter, and the patient died shortly. Postmortem computed tomography showed bilateral pneumothorax. Forensic autopsy revealed that the tracheostomy cannula had failed to reach the trachea and was erroneously inserted into the right thoracic cavity via peritracheal route. Thus, it was determined that the patient's death was attributable to tension pneumothorax caused by cannula malposition. During attempted tracheostomy. To the best of our knowledge, this is the first forensic autopsy case report on fatal tension pneumothorax caused by attempted percutaneous tracheostomy. Hair is one of the most common evidence types found in criminal investigations. Analysis of human hair reveals the mineral composition accumulated within it over time spent in a specific area, thereby providing additional information for forensic identification. To identify patterns of the elemental composition of hair in territories with different natural and anthropogenic features, hair samples of 1238 residents and 217 corpses of Central Kazakhstan were studied. The determination of 14 chemical elements in hair by inductively coupled plasma atomic emission spectrometry were presented. The data were analysed in terms of place of residence, gender, age and condition. The present investigation revealed a relationship between the elemental composition of hair and the place of permanent residence of a person, formed under the influence of regional industrial complexes, and determining gender and age-related differences. These findings enhance the possibilities of forensic human identification.

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