G82 Homicide by Strangulation With Postmortem Dismemberment of the Victim: Looking for Injuring Tool

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The goal of this presentation is to provide insight into various aspects of this type of postmortem injury due to desmemberment, including new diagnostic means, which may help the forensic community with the identification of injuring tool.

This presentation will impact the forensic science community by increasing awreness of the importance of completing extensive examinations and tests to establish the type of the lesions and their vitality, the cause of death, the effect of drugs on the victim, the characteristics of the possible injuring tool. Many morphological and technical details concerning the victim, the used instruments for killing, and dismembering are presented.

Criminal dismemberment or mutilation, with regard to all legal autopsies, has an average frequency of 1:500. The classification of the different types of postmortem dismemberment/mutilation includes defensive, offensive dismemberment of bodies and necrophilous dismemberment. But also intravital decapitation or mutilation (e.g., transection during accidents) may occur. Victims may be of all ages, but primarily between 20 and 60 years old and generally are female. Apart from an unfavorable personal life situation at the time of the offense, essential predisposing factors were: poor integration in society and family; occupational problems; drug abuse; and, mental diseases. As the interactions between these factors differ in every single case and may be combined with other factors, the analysis of such homicides should always be based on the assessment of the individual case. Apart from rare cases of necrophilia, the victim of dismemberment is always a victim of homicide. Perpetrators are most commonly person close to, or at least acquainted with the victim, between 30 and 40 years of age. The psychiatric expertises often classify the perpetrators as "normal," infrequently as abnormal or even as psychotic. Dismemberment is performed at the site of homicide, generally in the place inhabited by the victim, the perpetrator or shared by both.

In cases of postmortem dismemberment, the main forensic task, apart from the identification and assignment of body parts to one or several individuals, is the determination of the cause of death and the identification of the injuring tool. Notably in cases of offensive postmortem dismemberment, the findings on the victim may be of special importance which also provide investigators with objective means to reconstruct the course of events and get to the killer.

Case Report: A man who was walking along a road of the suburbs was alarmed by the foul odor coming from a garbage bag and a rucksack along the road. When the plastic was cut human lower limbs were revealed among the decomposition. The alerted detectives found three other body parts wrapped in layers of plastic bags, also contained in two buckets, not far from the first discovery site. The head was intact, allowing classical identification, in accordance with other external findings (tattoos, scars, lesion of the left foot, etc.). The victim was identified as a 49-year-old woman, who was a known drug addict, affected by HCV infection. She had been seen alive two days prior wearing a dark shirt and black pants, and limping with a bandage on the left foot. The investigation inside the woman's home was unremarkable. The victim's former boyfriend was suspected of the murder.

The medical examiner performed an autopsy and opened the garbage bag revealing five dismemebered body parts: head-chest, upper limbs from the shoulder down, and lower limbs from the buttocks down were cut off using a sharp object. The whole body, as well as the inner organs were very well preserved. Maggots were present on the hairs.

Multi-slice-3D-CT on the five body parts indicated the use of a sharp tool, especially on the basis of the witness marks produced on bone, typically found on the kerf wall or floor. A horizontal ligature mark encircling the neck was clearly visible, it was consistent with a rope. There were multiple petechiae in the skin. The autopsy showed also deep hematomas of the scalp, the rachis severed al L5 intervertebral disk level, and a necrotic ulcer at the left heel. The long bones displayed an extreme degree of splintering and bending breakage. Histological investigation revealed cerebral edema, acute emphysema, alveolar hemorrhages and edema, contraction band necrosis to the heart, hepatic cirrhosis and steatosis, dermoepidermal detachment, flattening of the epidermal layers, and massive hemorrhages in the cutaneous and subcutaneous tissues of the neck. No hemorrhages were visible in the cutis samples from limbs and chest cuts. Also the spinal cord and the cartilage of the intervertebral disk at L5 level didn't show erythrocytes. Immunohistochemical studies (Fibronectin, α1- antichimotripsin, antitriptase, CD 31, and collagen type IV) performed on the cutis specimens collected from the neck lesion, chest and limb cuts confirmed the vitality only of the neck lesion. Toxicological analyses were positive for morphine, methadone, and EDDP. DNA typing by PCR amplification established that tall remains belonged to the same woman. Inductively coupled plasma atomic emission spectroscopy (ICP-AES), an analytical technique used for the detection of trace metals, was

performed on the cutis and cartilage specimens to determine characteristics of the sharp tool used to dismember. The death was classified as a homicide by ligature strangulation with postmortem dismemberment. Dismemberment and bone breakage was accomplished by cutting, blunt force, and, in the case of long bones, manual bending.

Dismemberment, Ligature Strangulation, ICP-AES

 ** Presenting Author*