G63 Where is the Head? A Case of Homicidal Decapitation

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The goal of this presentation is to present the case of a complete homicidal decapitation. Investigation of the scene where the body was discovered, autopsy findings, and DNA analysis are described. In particular, the primary importance of histological and immunohistochemical study to evaluate the vitality of wounds is underlined.

Only a few cases of homicidal decapitation are reported in the forensic literature. Sometimes the forensic pathologist faces the particular case, which may be difficult to distinguish between a vital or a postmortem beheading, especially when the circumstantial data is insufficient. This presentation will impact the forensic community and/or humanity by showing how histological and immunohistochemical investigations play a decisive role in forensic medicine.

Cases of complete decapitation have been sporadically reported in the forensic literature. In spite of high suicide rates all over the world, this particular mode of death is a relatively rare finding in violent suicidal deaths. Suicides by self decapitation have been reported, like those where individuals deliberately put their neck onto the track while a train is approaching or those where subjects use a ligature tied between the neck and a stationary object while attempting to drive a vehicle away, or even cases where individuals use a guillotine. Also unintentional decapitations are possible in suicidal cases, as after hangings. Accidental decapitation may also occur, for example, in cases of train pedestrian fatalities, industrial accidents, and unusual injuries during road accidents regarding either cars or motorcycles. Even more rare is the homicidal decapitation. This manner of death has been used for centuries for execution all over the world, and today is still used in some countries to carry out a death penalty. In recent years beheadings have also been registered in those homicides perpetrated by satanic sects, serial killers, or even in hostage killings. The forensic pathologist may meet some difficulties in evaluating cases of decapitation. A relevant problem, which the forensic pathologist has to face, may be the differentiation between a real decapitation and postmortem mutilation of the body.

Here is presented the case of a 32-year-old Italian woman murdered by her Romanian partner and found dead under a bridge in a country of South Italy. The man himself, who in the meantime had escaped abroad, phoned the police indicating the place where he had left the lifeless body of the woman, and he also confessed to having strangled her. When the police officers arrived at the suggested place, they found the lifeless body of a woman, tidily dressed, with the upper regions of the body completely wrapped in her jacket. When they lifted it they discovered that the body was completely decapitated. Numerous locks and shards of the scalp were scattered all around the body, abundantly stained with dried blood. Some locks held her earrings and necklace. On the ground beneath the body there was only a small amount of blood. Notwithstanding the careful examination of the scene where the body was discovered and the adjacent countries, neither the severed head nor the injuring tool was found. Only a metal bar, 66 cm in length and 2 cm in diameter, was recovered near the body, showing on its surface some blood spots. The postmortem examination showed that the neck was completely cut 3 centimeters above the jugular fossa; the wound margins were clear-cut, which led the examiner to assume that the head had been cut off with a sharp tool. The vertebral column was disconnected on the level of the seventh cervical-first dorsal vertebra. Numerous superficial linear wounds, of different length, and many excoriation zones with soft tissue bleeding underneath were present on the cutis adjacent to the neck lesion. No relevant injuries were detected in the remaining body parts. The lack of the severed head didn't allow analysis to injuries in this site. Massive blood aspiration, soft tissue hemorrhage surrounding the neck lesion and the pallor of inner organs as signs of bleeding out, were present. Histological investigation applying hematoxilin and eosin staining revealed massive hemorrhages in the cutaneous and subcutaneous tissues. Immunohistochemical studies were performed on the cutis specimens collected from the neck lesion for the determination of the vitality of the neck wound. The expression of Fibronectin, $\alpha_1$antichimotripsin, antitriptase, CD 31, and collagen type IV was analyzed. The positive results lead us to conclude that the neck lesion was vital, identifying homicidal decapitation as cause of death. Two months later a countryman discovered the skeletal remains of a human head on the back of his homestead, about 200 m from the place where the body was discovered. The skull showed no fractures. DNA analysis established that those skeletal remains belonged to the same woman.

Homicidal Decapitation, Vitality, Immunohistochemical Study

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