D51 Suicidal Hanging Resulting in Complete Decapitation: A Case Report

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Attendees will learn the criteria to differentiate suicidal or criminal decapitation that must be known by the forensic pathology community; and learn the contribution factors of a complete post hanging decapitation must be known by the forensic pathology community. This presentation will impact the forensic community by increasing the ability of forensic pathologists to correctly classify decapitations in hangings**.**

Death scene findings: A decapitated body was found in the morning by a jogger in a park beside a road bridge. The decapitated corpse lay against one pillar of a road bridge; a considerable amount of blood had splattered on the wall facing the neck stump. The wall was amply splattered with blood to a height of about one meter, indicating a vital arterial bleeding. The head was found five meters away from the trunk. A nylon rope was found tied to the base of a street lamp located on the bridge. The bridge was 7.20 meters from the road level. The lower end of the rope was 3.60 meters in length with a noose about ten mm in diameter. There was no evidence of a fight or any influence by another person at the discovery site. A handwritten letter of intend was found inside one trouser pocket of the deceased. The victim was identified from fingerprints; he was a 65-year-old man with no medical past history.

Postmortem findings: At the autopsy time the head and the torso were perfectly complementary with each other, without apparent loss of substance. The severance line passed through the low ventral to the high dorsal part of the upper cervical region and was a sharply clean edge. A band like abrasion pattern with rough-toothed margins around the skin of the neck was noted. The severance plane passed between the third and the fourth cervical vertebrae, with an intervertebral disc completely torn apart. The airway was severed at the trachea level, between the hyoid bone and the thyroid cartilage. The intima of the carotid arteries showed several horizontal tears and the adventitious showed some bruises. The entire severance plane showed marked extravasation blood in the tissue of the wound surfaces. Blood aspiration was noted. Furthermore, a longitudinal rupture of the thoracic aorta, fractured ribs and a burst fracture of body of the twelfth dorsal vertebrae were noted. The toxicological analyses, including alcohol analyses, all yielded negative results. Skull and cervical spine x-rays showed air within the meningeal spaces and ventricles. No skull fracture was diagnosed. The severance plane of the cervical spine was between the third and the fourth cervical vertebrae. A dry bone study was realised and confirmed the cervical bone severance plane and found a fracture of the spinous process of the third cervical vertebra.

Discussion: Although hanging ranks among the internationally frequent suicide methods, decapitation is an unusual complication. It is not only rare but also has a medico-legal importance in relation to the causal mechanisms, differential diagnosis with a post-homicide decapitation and identification. Cases reports already exist in the forensic literature. Suicidal hanging is generally associated with soft-tissues injuries but osseous lesions of the cervical spine are unusual. Concerning complete post hanging decapitation, the section of soft tissues always occurs

at the uppermost part of the neck and the cervical spine and breaks generally between the first and the second cervical vertebrae, sometimes between the second and the third cervical vertebrae. However, the authors observed the cervical spine broke between the third and the fourth cervical vertebrae with a fracture of the spinous process of the third vertebra. The authors discuss and compare this finding with the severance line previously described in the literature. Others findings as cranial and caudal wound edges, blood aspiration, vital reactions are compared to the literature cases. The following conditions as results of post hanging suicidal decapitation are summarized.

The complete mechanism of decapitation and autopsy findings are discussed, reviewed and compared to this case.

The fractures of the ribs and the thoracic vertebra were attributed to the shock against the wall.

A large iconography is presented to illustrate the findings on the death scene, at the autopsy time, on the radiographies and the dry bones.

Decapitation, Suicide, X-Rays

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