



H71 Suicide or Suspension of a Corpse? The Correlation Between a Hanging Mark and the Suspension Tool Used

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After attending this presentation, attendees will be able to describe the impact of the hanging mark and the differential diagnosis between suicide and suspension of the corpse.

This presentation will impact the forensic science community by demonstrating the importance of the correlation between the characteristics of hanging marks and tools of suspension found at the crime scene.

Introduction: Hanging is a type of asphyxial death occurring when the body is suspended in the air by means of a ligature. In most cases, hanging is due to suicide and only occasionally it is an accidental or homicidal event. Internal injuries of hanging are characterized by fracture of the hyoid bone and/or laryngeal cartilages, cervical fractures, muscle hemorrhages, and vascular lesions. At external examination, there are specific hallmarks of hanging. The wound examination is of prime importance in forensic pathology, and forensic pathologists are often asked to provide an opinion on how a wound was made and by what means. The most common types of traumatic skin injuries on the hanging mark are contusion (bruise), abrasion (scrape), laceration (tear), and blisters (vesicles) on the hanging mark. In particular, sulcus skin is the most common external sign of hanging. The sign of ligature is typically yellowish, such as leather, and the consistency is parchment-like; however, its characteristics depend on the ligature used. In order to demonstrate that the characteristics of the hanging mark vary in relation to the type of suspension and ligatures used, 20 cases of hanging marks are reported in which the association between the characteristics of hanging mark and the tool of suspension were analyzed. The purpose of this study is to illustrate that the characteristics of the hanging mark vary in relation to the type of suspensions and ligatures used. Also, this is important in order to distinguish a suicide from accidents and homicides.

Methods: This presentation reports on 20 cases in which the bodies were moved at the crime scene and occurred between 2013-2015 in an area of southern Italy. In these cases, the association between the features of hanging marks and the tools of suspensions and ligatures employed was analyzed. The analysis of the suspension tool was conducted through the evaluation of the nature of ligatures: soft, smooth, hard, and rough. Furthermore, a differential diagnosis between vital lesions of hanging marks and any other postmortem lesions was accomplished.

Results: Each suspension medium used was compared with the hanging mark. In nine cases, the correlation between soft and smooth ligatures with a hanging mark without abrasions is shown; the hanging mark presented a deep compression of the neck. In eleven cases macroscopic characteristics of the brownish hanging mark with hard and rough ligatures was correlated. In seven of these cases (death by full hanging), in which rough rope with a rough surface was used, serous vesicles were found. In four of these cases (death by partial hanging) the hanging mark showed negative impressions of fabric weft without vesicles.



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Conclusions: Therefore, in cases in which rough tools are used, the lesions are certainly different than when smooth tools are utilized. Therefore, the crime scene in which a smooth tool is found and the groove on the neck is soft, the differential diagnosis between suicide and suspension of a corpse must be done very judiciously through the analysis of circumstantial data and any other signs of active or passive defense wounds. The analysis of hanging mark allows one to assess the method and tool of suspension used and to clarify the manner of death and the type of hanging. Although this is a descriptive matter, the purpose of this study is to emphasize the importance of judicial inspection and the crucial role of the forensic pathologist and the traditional forensic pathology in the evaluation of cases of suicide by hanging, in particular when the crime scene is contaminated and the body has been moved.

Forensic Science, Hanging, Suspension of Corpse