



G128 Interpretation of Anogenital Findings in Forensic Autopsy: Problems and Challenges

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The goal of this presentation is to highlight the difficulties in anogenital examination during autopsy and in interpretation of sexual violence signs.

This presentation will impact the forensic science community by raising awareness of the difficulties in establishing the medical legal diagnosis of sexual crimes on deceased victims, and to outline the importance of scientific research in postmortem genital and anal changes.

Sexual violence is a current topic that has been thoroughly studied, leading to numerous publications. However, these papers deal, almost exclusively, with the study of living victims. The few publications about postmortem anogenital examination and related findings advocate that this expertise and related injuries interpretation should be similar to the one performed in living victims. However, in daily practice, the major difficulty for medical legal experts in the interpretation of sexual violence injuries, lies in the fact that currently there are no published studies allowing us to obtain a rigorous differential diagnosis between these injuries and anogenital tissues appearance in the postmortem interval caused by postmortem phenomena, like, cadaveric lividity, dehydration, and putrefaction which could lead to over or misinterpretation of macroscopic sexual violence signs in anogenital area.

Autopsy case reports of five female homicide victims, performed in the North Branch of the Portuguese National Institute of Legal Medicine between June 2009 and June 2010 are reported.

The victims' age ranged from 9 to 89 years old. In all of the cases, anogenital injuries with multiple severity degrees, from bruises to vaginal and uterus perforation, were found. Depending on the type and severity of the injuries:

- a) Two different postmortem technical approaches were performed: macroscopic anogenital examination (four cases); and abdominopelvic amputation (one case). The colposcope was not used in any of the cases and blue toluidine coloration was performed in one of the cases;
- b) Several complementary procedures were performed: toxicological, in five cases; genetic, in five cases; and histological, in three cases.

Photographic documentation was performed in all cases.

Complementary procedures results revealed drugs intoxication in two cases, a male profile in three cases and uterus and vaginal vital laceration in one case.

In autopsy daily practice, medical legal doctors have many difficulties, especially in technical, methodological, and interpretation areas.

Postmortem phenomena, as rigor mortis often make the cadaver manipulation and positioning difficult, not allowing adequate anogenital view. Cadaveric lividity, dehydration and putrefaction phenomena could mimic sexual violence injuries, as abrasions, bruises, hematomas, among others or even hide them, leading to over or misinterpretation of macroscopic sexual violence signs.

To overcome these difficulties, autopsy should be performed as soon as possible, before washing the corpse by a medical legal doctor with expertise in sexual violence in order to prevent loss of biological evidence.

The forensic examination must follow the methodology for the same type of examination in living victims, through: the use of suitable materials, such as the speculum and anoscope; techniques for image magnification macroscopic, such as colposcopy; staining techniques, such as blue toluidine, and photographic documentation.

There must be collected histological and biological samples, in order to exclude various disorders that can mimic signs of inflicted genital trauma or sexually transmitted infection and rule out postmortem artifact and to search for heterologous biological material (DNA profile).

If evidence of trauma is found, special dissection is necessary so that the rectum, anus and perianal tissues are removed *en bloc* with the perineum, uterus, vagina and vulva being included in the female.

Given the paucity information on the nature and appearance of the anogenital tissues in the postmortem interval, the opinion here is that scientific research is essential to improve knowledge about genital anatomy and variants, sexual violence physical indicators and their lesional mechanisms, differential diagnosis and, above all, interference of postmortem phenomena in these anatomical areas.

Sexual Violence, Medical Legal Autopsy, Postmortem Interval