

Suicidal Cut Injury of Wrist: Crime Scene and Autopsy Findings

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Abstract

Cut Injury of wrist (CIW) is also known as 'Spaghetti wrists' with a minimum of three completely transected structures, a nerve, artery and a tendon. The investigators have to answer the most challenging question i.e. manner of death. Some circumstances cannot be understood by the investigators and have to be explained by a Forensic Pathologist. We report a case of an individual who was found dead in a bathroom with blood splashes all over the walls and floor of the bathroom along clothes and body of the deceased. The amount of blood found in the bathroom was baffling. The case later examined in totality with autopsy findings was found to be suicidal in nature. The authors intend to recommend that wherever possible the autopsy surgeon should visit the crime scene in such cases before conducting autopsy to have a fair idea about the circumstances of death and to lead the investigation towards natural course of justice.

Keywords: Cut Injury of Wrist; Spaghetti Wrists; Ulnar Artery; Hypovolemic Shock; Suicide.

Introduction

In a case of violent death by Cut Injury of Wrist (CIW), the question of deciding the manner of death always pose a challenge to the Investigators and Autopsy Surgeons. A combined approach has to be taken by considering the crime scene and circumstantial evidences together with the autopsy findings. Police officer in India being a non Medical person can sometimes get confused by the findings at a crime scene, so it is the responsibility of the autopsy surgeon to clarify the doubts of investigator. We report a case of an individual who was found dead in a bathroom with blood splashes walls and floor of the bathroom along clothes and body of the deceased. The case later examined in totality with autopsy findings was found to be suicidal in nature.

The authors intend to add to Medical Literature the autopsy findings and type of crime scene which can be found in cases of suicide by cutting of wrist.

Case History

The deceased was found unresponsive in the bathroom of his Hotel room in New Delhi which was locked from inside and was broke open by the hotel staff. A blade piece was found nearby. The deceased was brought to the AIIMS casualty and declared brought dead.

Autopsy Findings

The deceased was of stout built with height 5'8"

inch. Blood stains were present on both forearms, hands, chest, trunk and legs. He was wearing blood soaked green half sleeved T-shirt, blood soaked green Bermuda shorts and blood soaked underwear. Rigor mortis was present over eyes, jaw, trunk, upper limbs. Postmortem lividity was pale and present over back and dependant areas except pressure areas.

The following external injuries were present:

1. Multiple parallel skin deep linear incised wounds varying in length from 6 cm to 8 cm are present over the dorsal aspect of left forearm. The wounds were placed horizontal to the long axis of the forearm and tailing is present near the radial side of the forearm. The margins of the wounds were clean cut, regular and blood stained.
2. A wound of size 6x3 cm was present on the inner aspect of the left wrist region cutting through the skin, subcutaneous tissue, flexor tendons, Ulnar artery, Ulnar nerve. The wound was placed horizontally to the long axis of the wrist with clean cut and regular margins.
3. Three parallel skin deep linear incised wounds varying in length from 5 cm to 8 cm were present over the medial aspect of the left leg just proximal to the medial malleolus. The wounds were placed horizontal to the long axis of the leg and tailing was present near the medial side of the leg. The margin of the wound was clean cut, regular and blood stained.



Image 1: Crime Scene Photograph



Image 2: Crime Scene Photograph



Image 3: Crime Scene Photograph



Image 4: Crime Scene Photograph

The Internal organs were pale. Stomach contained about 100 ml of blackish colored fluid and mucosa was congested. Viscera was preserved for chemical analysis to rule out any concomitant intoxication and came negative for any common poisons tested in the Forensic Science Laboratory. The cause of death was opined as Shock due to hemorrhage consequent upon antemortem cut injury of the wrist caused by sharp object.

Discussion

Suicidal wounds by knife are commonly found in men over throat, neck and front of chest, typically multiple and are associated with a number of Hesitation/ Tentative cuts. In wrist cuts, due to right handedness the usual site is the left wrist on the flexor surface at the level of skin flexion creases [1-4]. The fact that bathroom was locked from inside, negative viscera report and recovery of blade from the bathroom pointed out towards the suicidal nature of case. Cut Injury of wrist (CIW) is also known as 'Spaghetti wrists' with a minimum of three completely transected structures, a nerve, artery and a tendon [5]. Weinzweig [6] et al observed a Ulnar sided predilection of Injuries with radial artery being the most protected structure due first to web space. Ulnar triad i.e. Ulnar artery, nerve and Flexor Carpi Ulnaris was most common involved in injuries. The presentation in our case typically fits the picture, but the amount of blood found in the bathroom was baffling (Image 1-4). We will first understand the mechanism of blood spatter in CIW. The blood spatter in CIW is 'Projectile type' caused by arterial spurting of blood when a major artery is severed. The blood is propelled out of the breached vessel after being pumped out by beating of heart in an arc like pattern consisting of large individual stains [7]. This continued blood loss led to the hypovolemic shock in the deceased which happens after 15% of the total blood volume [8,9]. This is evident from the amount of the blood present in the bathroom and the soaking of clothes of the deceased in blood (Image 1-4). It implies that presence of large amount of blood was not unusual, instead such circumstances will be present in suicidal cases where the deceased cut their wrist and wait for their death by letting the loss of blood from the body. The authors intend to recommend that wherever possible the autopsy surgeon should visit the crime scene in such cases

before conducting autopsy to have a fair idea about the circumstances of death and to lead the investigation towards natural course of justice.

Compliance with Ethical Standards

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Ethical Approval: This article does not contain any studies with human participants performed by any of the authors.

References

1. Saukko P, Knight B. Knight's Forensic pathology. 4th Ed. London: CRC Press; 2015. Chapter-7, Self Inflicted injuries.
2. Karlsson T. Multivariate analysis ('forensiometrics') - a new tool in forensic medicine. Differentiation between sharp force homicide and suicide. Forensic Sci Int 1998; 94:183-200.
3. Fukube S, Hayashi T, Ishida Y, Kamon H, Kawaguchi M, Kimura A, Kondo T. Retrospective study on suicidal cases by sharp force injuries. J Forensic Leg Med. 2008 Apr; 15(3):163-7. doi: 10.1016/j.jflm.2007.08.006. Epub 2007 Nov 26.
4. Ersen B, Kahveci R, Saki MC, Tunali O, Aksu I. Analysis of 41 suicide attempts by wrist cutting: a retrospective analysis. Eur J Trauma Emerg Surg. 2015; Published online 01 Dec 2015. DOI 10.1007/s00068-015-0599-4.
5. Puckett CL, Meyer VH. Results of treatment of extensive volar Lacerations: The Spaghetti wrist. Plast Reconstr Surg. 1985; 75:714.
6. Weinzweig N, Chin G, Mead M, Gonzalez M. "Spaghetti wrist": management and results. Plast Reconstr Surg. 1998; 102(1):96-102.
7. Principles of Blood Stain pattern. A simplified guide to Bloodstain pattern analysis. [Internet]. [Cited 2016 Dec 19]. Available From: <http://www.forensic-sciencesimplified.org/blood/principles.html>.
8. Kumar R, Abbas AK, Fausto N, Aster JC. Robbin's Pathologic Basis of diseases. 8th Ed. Philadelphia: Saunders Elsevier; 2010. Chapter-4, Hemodynamic disorders, thromboembolic diseases & Shock.
9. E.M. Bulger, J. Cuschieri, K. Warner, R.V. Maier. Hypertonic resuscitation modulates the inflammatory response in patients with traumatic hemorrhagic shock. Ann Surg, 2007; 245: 635-641.