CASE REPORT

A planned complex suicide: Cut injury to the wrist with corrosive acid poisoning

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Abstract
Planned complex suicide is the complex action mechanism, formerly planned to protect the victim of suicide from failure. A 22 year old undergraduate student was found dead at his home in the toilet with cut injury to wrist. Autopsy findings revealed incised wound at wrist along with the signs of corrosive acid poisoning. Crime scene investigations confirmed it as a case of planned complex suicide. To the best of our knowledge the combination of methods used in this case is unique and has not been reported previously. The sequence of events in this case was difficult to determine as both the methods used viz. cut wrist and corrosive acid poisoning were sufficient to cause death individually. Also the duration between the events must be so less that the sequence was difficult to be guessed.

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1. Introduction
Complex suicide is defined as the use of more than one method to induce death, either simultaneously or chronologically. The term has been widely accepted in the forensic literature.1,4,6,7 In 1974, Marcinkowski et al. had considered a general division of methods of suicide. In this classification, suicides are divided into simple versus complex, the complex one refers to committing suicide by a combination of more than one method.1,2,4,10-12 Planned complex suicide, or “primary combined suicide”, is the complex action mechanism formerly planned, to protect the victim from failure.3 This manner of suicide is used by the victim so as to prevent failure of one of the mechanisms.

On the contrary, the characteristic of complex unplanned suicide, or “secondary combined suicide,” is that the victim, after the failure of an attempt, continues to try by using one or more self-destruction modalities to achieve death. A few cases of planned complex suicide have been reported in the medico-legal literature and the systematic studies are rare.1,5-7,9

2. Case report
A 22 year old undergraduate student, belonging to a ’Telugu’ speaking family, was found in unconscious state at his home in the toilet. He was found in the supine position with his left hand placed under a running tap water. An incised wound was present over anterior aspect of his left wrist. Blood stains were present over the walls and floor of the toilet at places. Following the incidence, he was immediately brought to the hospital

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but was declared as brought dead. Post-mortem examination was conducted on receiving requisition from the investigating authority. Examination of clothes revealed fresh blood stains at places. On examination of the body of deceased, blackish coloured sero-sanguineous fluid was oozing out through both the nostrils [Fig. 1]. He was an averagely built and nourished male. Rigor mortis was present all over the body but not well developed. Post-mortem lividity was present over back and buttocks but was not fixed. Following injuries were noted,

Injury No. 1 – A spindle shaped incised wound of size 6.5 cm \( \times \) 2.5 cm tendon deep, present horizontally over anterior aspect of left wrist joint. The margins were clean cut and infiltrated with blood. It was passing through skin, subcutaneous veins and fat, muscles, tendons, radial artery and median nerve. The radial artery was clean cut with a blood clot placed at the opening [Fig. 2].

Injury No. 2 – An abrasion of size 03 cm \( \times \) 01 cm was present over anterior aspect of right knee joint with bright red scab in situ.

On internal examination, mucous membrane of oesophagus was inflamed and swollen. There was evidence of perforation of stomach at fundus with mucosa of the stomach inflamed, oedematous, blackened and leathery to feel [Fig. 3]. Peritoneal cavity was containing 150 ml of black grumos liquid containing mostly altered blood from perforated stomach. All other organs were pale. Samples of biological fluids were taken for toxicological examination. On Toxicological analysis, sulphuric acid was detected. On crime scene investigations, it was a living room of size 2.4 m \( \times \) 4.5 m with attached toilet in the left corner of size 0.6 m \( \times \) 1.2 m. The floor of the toilet was formed by designed slippery wet tiles. There were few stains of blood over the floor, walls of toilet, near tap and in the basin. A bottle of a local toilet cleaner, labelled with contents mentioning sulphuric acid as one of the ingredients and a shaving blade was found in its corner [Fig. 4]. The edges of blade had blood stains at places. A suicide note written in ‘Telugu’ language was also found at his home. To the best of our knowledge this type of planned complex suicide method, using a combination of cut wrist with corrosive acid poisoning, has not been reported previously.²
3. Discussion

In the forensic literature, complex suicides have been accounted for about 1.5–5.0% of all suicides.\(^2\)\(^,\)\(^5\) Use of firearms has been reported earlier as one of the most preferred methods employed in complex suicide.\(^1\) Demirci et al., in their study have found that most common methods of complex suicide were wrist cutting combined with self-strangulation, insecticide ingestion with shotgun injury and insecticide ingestion with jumping from height.\(^7\) Palmiere et al. have reported a complex suicide by self-strangulation associated with multiple sharp force injuries.\(^8\) In the literature, the use of maximum up to 5 suicidal methods applied one after the other have been illustrated.\(^1\) Victims prefer to use methods of lesser lethality before choosing to use more lethal techniques. The adaptation from lesser to greater methods of lethality is most likely concerned with pain, anguish, and frustration experienced by the person.\(^1\) Bohnert and Pollak have accounted that self-inflicted injuries by sharp force, especially cuts of the wrists, are often preferred as the primary act of suicide in complex suicides.\(^3\)\(^,\)\(^5\) Demirci et al. reported wrist and/or flexor surface of elbow cutting was chosen in seven out of sixteen (43%) cases of their study.\(^7\) In these cases, subsequent method was applied because the first method takes much time as well as gives pain and uneasiness. Hence, the victim had selected the second and more lethal method due to the reasons of pain, ache, and taking too much time. Cingolani et al. have reported that even if hanging and shooting are frequently used alone in planned suicide, their use at the same time is rare.\(^6\)

In our case report, combination of methods was found as cut injury to wrist with corrosive acid poisoning. In most of the cases of complex suicide, wrist cutting was found with other combinations.\(^7\) To the best of our knowledge, combination of cut injury to wrist with corrosive acid poisoning has not been reported previously. In cases of sulphuric acid poisoning, the time interval between acute ingestion of sulphuric acid and death is known as lethal time (LT). The LT min (minimum time after ingestion of fatal dose of poison that will cause death) is about 30 min and LT50 (time in which 50% of persons will die after ingesting a fatal dose of a poison) is about 5 h.\(^9\) Sulphuric acid ingestion will lead to death by rapid cardiovascular collapse (within 30 min) or shock secondary to gastrointestinal tract rupture related chemical peritonitis (more than 4–5 h in 50% persons).\(^9\) If the victim has died within 30 min after ingestion of the poison, then there could not be signs of haemorrhagic shock. Hence death in this case might have taken place more than 4–5 h after ingestion of poison. Also it takes almost 4–5 h for death due to haemorrhagic shock after cut wrist injury involving radial artery. It indicates that, both these events, cut wrist and poisoning might have taken place very close to each other in terms of time. Commenting on sequence of events in this case is difficult. It can be just guessed on the basis of previous studies that cut wrist injury might have taken place earlier than ingestion of poison.\(^9\) Even though thinking that these methods are slower and comparatively ineffective, the victim may select a second as poisoning.

Most of the questions may stay behind unanswered if the scene of death is not investigated. The scene may disclose features about suicide, like suicide note or any material used as a means of suicide. Relatives or friends of the decedent also may reveal background information such as history of depression, previous suicide attempts, social, marital or economic problems.\(^14\)

4. Conclusion

Planned complex suicide represents a tricky medico-legal case, because the combination of mechanisms concerned in such cases may be complex and homicide could be suspected. Homicide should be carefully ruled out in every case of sharp weapon injury. Only a careful assessment of all elements, including examination of the scene and postmortem findings, can reconstruct the lethal chain of events and elucidate the time, manner, cause and mechanism of death.

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Conflict of interest

None declared.

References