

Self-destruction by multiple methods during a single episode: a case study and review of the literature

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Abstract

Background: Although the prevalence of suicide in the world is not clear, however, the reported rates of suicides are consistently higher among men than women regardless of age group.

Methods: A case employing multiple methods during a brief time of self-destructive behavior is presented. A 44-year-old postmaster who was under criminal investigation by his head office for embezzlement, leaped down a high river cliff and drowned after an initial attempt to commit suicide by hanging from the bridge over the river. The autopsy and scene investigations were both employed and very helpful.

Results: Three different methods of suicide were apparent in this instance: hanging, leaping down the cliff and drowning as was evidenced by the autopsy and positive diatom test. The complexity of this case was the planned protection against the failure of one method employed to commit suicide. The methods used were all highly lethal ones. There was neither history of previous suicide attempts nor psychiatric disorder.

Conclusion: Although the cause of death may appear clear at autopsy in cases of self-destruction by multiple highly lethal methods during a single episode, scene investigation is important for the forensic pathologist to understand the whole story of the case and determine the manner and actual cause of death. Scene investigation and autopsy is emphasized as part of the whole postmortem investigation of death in cases of unusual suicide using multiple methods of self-destruction.

Key words:

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Introduction

Suicide is a significant public health problem in the world because many precious lives are lost every year by self-destruction. The reported rates of suicides are consistently higher among men than women regardless of age group.^{1,2,3} The suicide rates differ from country to country; for example; according to a study by Yoshioka,⁴ it is estimated that about 20,000 people commit suicide every year in Japan. Frequently used suicidal methods in descending order are hanging (48%), jumping from height (24%), poisoning (6%) and drowning (5%). Unusual ways of committing suicide are reported in the forensic literature which appears to be similar

although the frequency differs from country to country.^{4,5} Taff et al.⁶ have previously reported a relatively rare use of multiple methods of self-destruction during a single episode; case 1: Three methods were used, ingestion of acepromazine, slashing the wrist and hanging; case 2: The victim had ingested thiorazine tablets before stabbing the chest and attempted drowning. Although cause of death may appear clear at autopsy in cases of unusual suicide by multiple methods, scene investigation is important for the forensic pathologist to determine the manner and cause of death.

In this article, the significance of scene investigation on forensic autopsy on unusual suicides by multiple methods of self-destruction is presented.

Decedent History

The deceased was a 44-year-old Japanese man who was employed as a postmaster at one of the small branch post offices in Kumamoto prefecture. He was under criminal investigation for embezzlement. His body was discovered by a colleague submerged in a river near a high bridge six hours after he had

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gone out for a short time during the criminal interview. The body was discovered with the clothing intact although totally wet. The colleagues ought to search for him after he had failed to come back to continue the interview. Whereas the victim was a regular drinker he had uneventful medical history. He was a buddahist, a father of four children and a senior post employee with stable financial position.

Scene Findings and Speculated Chain of Events

This incident occurred on a sunny day in spring season with average temperature of 15 to 20 °C. The scene was located about 200 m away from the post office in a remote area with a relatively small traffic. The height of the bridge was 26 m and the slow flowing current was 50 cm deep. The bottom of the river was mostly sandy with small rocks. The scene investigation which was conducted after the autopsy revealed a torn piece of a neck tie which matched a torn ligature found over the victim's neck. This piece of the neck tie was discovered on the bridge tied to one of the side metal poles.

The scene investigation further revealed that, after interruption of the hanging event when the ligature ripped the victim fell on a relatively flat ground about 3 m beneath the bridge. From this point which is not directly above the water, he walked several meters to the top of the cliff on the opposite side of the bridge. The cliff on this side was higher up than on the hanging side and was easily accessible by walking. From the top of the cliff the victim leaped down and landed at its bottom about 7 m apart from the water. His glasses, sandals, name plate and cellular phone were found dry on the ground close to the landing point. Crawling marks were evident on the ground between the bottom of the cliff and the water. These marks suggested that the victims had made efforts rather than passive movements to reach the water as the last means within reach for him to accomplish his desire for self-destruction. There was no denizen activity in the area.

Autopsy Findings

A complete autopsy revealed a ligature mark was over the congested neck. The body showed bruises and abrasions over the face, arms and the lower limbs. The livor mortis was easily blanched by compression and the rigor mortis had developed to the maximum at the time of autopsy. Noticeable too were slight scalp hematoma on the left frontal region and fracture of the right 3rd, 4th, and 7th ribs.

There were neither skull fractures nor intracranial hematoma noted at autopsy. The brain weighed 1,410 g and showed contusions over the left frontal and temporal lobes. The left and right lungs which weighed 520 g and 575 g, respectively were pale and markedly overinflated filling the thoracic cavity when the sternum was removed, they were edematous bulging upward to obliterate the anterior mediastinum. About 200 ml of hemorrhagic fluid was found in the chest cavity. Similar fluid was also noted in the trachea, bronchi and the cut surfaces of the lungs. There was no froth noted in mouth and nostrils but copious white bubbles were expressed through the cut surfaces of the lungs. The heart weighed 350 g without injuries. There were no injuries to the other organs and major blood vessels. Diatom test was positive in the lungs, spleen and the kidneys. There were neither bleeding in the deep muscles of the neck nor fractures of neck bones and cartilages. Examination of the spinal cord revealed no abnormality. Toxicological analyses for alcohol and other drugs were negative. The direct cause of death was attributed to drowning.

Discussion

With the knowledge that a single method alone might have resulted in failure to attain suicide, the postmaster selected a scene where alternative suicide methods were available. Three different methods of suicide were apparent in this instance: hanging, leaping from a height and drowning. Although any one of the methods employed in our case could cause death by itself, the findings of drowning suggest that the victim was alive when he leaped onto the ground though already severely incapacitated by hanging and wounding his head by leaping from the height. This fact was supported by the autopsy findings and the evidence of crawling marks the victim made at the bottom of the cliff before reaching the water.

Death does not invariably result from hanging provided the ligature is cut down or ripped in time. Maxeiner⁷ had reported six cases of hanging with delayed death after interruption of hanging event, where the survival times ranged from 18 hours to 4 days. Survival from the initial hanging attempt in our case was consistent with the findings by Maxeiner.

The use of jumping from height as a means to commit suicide is also not new.⁸ Studies have demonstrated that although the risk of death

following a jump from height depends to a large extent to upon the distance fallen, other factors such as the age of the victim, the position of the body on landing and the surface landed upon can play a considerable part. The recognized association between height of fall and severity of injury explains the large number of unsurvivable injuries.⁹ These unsurvivable injuries principally involve the thoracic aorta, heart, brain and brainstem. We speculate here that the victim in this report suffered no unsurvivable injuries upon landing.

The investigation demonstrated that there was no involvement of a second party in the act, therefore the causes of death other than by suicide was ruled out in this case. Although it appeared complex in planning and execution, the victim could do it by himself without participation of a second party. It was therefore speculated that, because of confusion and rumination about whether to live and face the consequence of misconduct at his office or to die and escape the conflict, he walked to the scene at the bridge and committed suicide. He hanged himself by his neck tie, leaped from the high river cliff beside the bridge and finally drowned in the river. He was absolutely responsible for taking his own life and for selecting a place where he was sure to attain his goal of dying by the three highly lethal methods.

Some studies suggest that more violent methods of suicide are favored by severely mentally ill patients.^{10,11} However, no essential differences was found in the methods used by those with than those without a previous psychiatric history.¹²⁻¹⁵ There was no history of mental illness in this case. While the methods used in our case were all highly lethal ones, there was no history of previous suicide attempts. In a case reported by Blanco-Pampin et al.¹⁶ the subject had attempted suicide twice previously using less lethal methods of gas inhalation and superficial cutting of the forearms before opting to use more lethal techniques, hanging and shooting to the head. Danto et al.⁸ had reported two cases of self-destruction employing multiple methods in a single episode with a progressive conversion from lesser to greater lethal method. They also noted that such conversion is most likely associated with pain, anguish, and frustration experienced by the suicidal individual; in such cases, the classification of manner of death should not present problems for certifiers because of the number of deadly techniques used by the victim to achieve suicide.

Conclusion

The case supports the literature that; although the cause of death may appear clear at autopsy in cases of self-destruction by multiple highly lethal methods during a single episode, scene investigations is important for the forensic pathologist to understand the whole story of the case and determine the manner and actual cause of death. Scene investigation and autopsy is emphasized as part of the whole postmortem investigation of death in cases of unusual suicide using multiple methods of self-destruction.

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