CASE REPORT

Multiple suicidal firearm injuries: A case study

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Abstract Firearms are often used to commit suicide, especially in countries where firearms are easily available. Suicides with multiple gunshot wounds are uncommon, but not rare. The death of a 30-year-old male is presented in the current work, in which the question of suicide was raised. The most remarkable point was the multiplicity of firearm injuries in different body regions. This case highlights the importance of criminal investigations for the confirmation of the manner of death in such cases.

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1. Introduction

Suicide is now among the three leading causes of death among those aged 15–44 years (both sexes); these figures do not include suicide attempts, which are 20 times more frequent than successful suicides. The rates of suicide among young people have been increasing to such an extent that they are now at the highest risk in a third of all developed/developing countries. Mental disorders (particularly depression and substance abuse) are associated with more than 90% of all cases of suicide; however, suicide can be a consequence of many complex socio-cultural factors and is more likely to occur during periods of socioeconomic, family, and individual crisis situations (e.g., loss of a loved one, employment, or honor).1

Isolated firearm deaths are usually self-inflicted. The determination of suicide is supported not only by the presence of a close-range wound but also by the scene and historical information. A complete external examination of the victim may also reveal evidence of self-intent on the hand(s), i.e., blood spatter and soot deposition. The head is the most common site for self-inflicted firearm wounds. Usually, multiple firearm wounds arouse suspicion of homicide. In the case of multiple firearm the wound tracks, relative lethality, and incapacitation needs to be assessed to determine the manner of death.2

We studied an unusual suicidal death in Dammam that occurred due to multiple firearm injuries in different body regions.

2. Case report

2.1. Circumstances of death and crime scene examination

A citizen reported to the police that he found his brother dead in his private flat. The death scene examination was performed
by the investigation team, consisting of competent relevant authorities and accompanied by the forensic medical examiner.

The deceased was found lying on his right side. The pistol was in his right hand and the thumb was in the trigger guard, while the other fingers were firmly holding the grip in “cadaveric spasm” (Fig. 1). The postmortem lividity was purplish in color, fixed, and posterior, consistent with the position of the body. Decomposition was not yet evident externally.

The flat was well-organized, without any scattered items or signs of violence. In the interrogation of the reporting brother, he confirmed that he came to the flat and knocked on the door for a long time and received no reply. He also called the deceased’s mobile phone repeatedly without any answer, so he brought a technician from a key repair shop, opened the flat, and found his brother dead. He believed that there was no criminal cause and accused no one of such an act. Later, the investigating authorities found that the victim had had many financial problems in recent months. The authorities also confirmed that no one could access the flat, as the door was locked from the inside and the key was kept in the keyhole from the inside.

A necessary forensic medical examination and autopsy of the dead body was performed based on an official request from the investigating attorney general in Dammam. On external examination, multiple relevant antemortem firearm injuries were noticed as follows: (1) an entry wound in the scalp (against the vault), 2.5 cm in diameter; a burst fracture of the skull bones together with brain lacerations was seen through the wound, (2) an exit firearm wound in the right posterior part of the scalp above the mastoid process, measuring roughly 1.5 × 15.5 cm, (3) a rounded entry wound, 0.5 in diameter, encircled with evidence of near firing (burning and blackening), in the anterior left part of the chest (Fig. 2), (4) an exit wound in the left side of the back (Fig. 3a), (5) an entry wound, located on the abdominal midline, about 0.5 cm in diameter, encircled with evidence of near firing (Fig. 2), (6) an exit wound located on the left posterior axillary line just about 12 cm below the shoulder (Fig. 3a), and (7) an entry wound in the right lower part of the back (Fig. 3a), about 0.5 cm in diameter, encircled with evidence of near firing. No other injuries were noticed on the dead body.

Examination of the clothes showed that the victim was wearing a half-sleeve Thobe (an ankle-length Arabic dress), a white, short-sleeved undershirt, long white underpants, and short white slacks. All the clothes were stained with blood. The clothes were carefully examined and showed the following: (1) a gunshot hole (entry) surrounded with burning and blackening (highly suspicious for near firing), in the left front part of the outer garment and undershirt corresponding to the previously described wound in the anterior chest, (2) a gunshot hole (entry) encircled with burning and blackening (highly suspicious for near firing) on the midline of the front part of the garment and the underwear and corresponding to the previously described wound in the abdominal midline, (3) two gunshot exit tears on the left side of the posterior body part of the garment (Fig. 3b) and internal underwear corresponding to the outlet firearm injuries in the deceased’s body, and (4) a cruciate tear (highly suspicious for an entry hole) surrounded by burn and ammunition blackening (suspicious for contact firing) and corresponding to the wound on the right posterior part of the body (Fig. 3b).

Toxicological screening of postmortem blood and urine samples were negative for alcohol, amphetamines, tranquilizers, hypnotics, and other poisonous and illicit materials.

The radiographs of the body showed shadows of a bullet in the upper part of the left shoulder and fragmented particles of a bullet in the right part of the head. Autopsy of the head revealed the track of the bullet, causing a fracture with internal beveling in the vault of the skull bones, with radiating fissure fractures (Fig. 4), and lacerations in the right and left hemispheres of the brain causing a subdural, subarachnoid hemorrhage and resulting in fissure fractures in the right anterior and middle fossae, together with a fracture with external beveling in the right part of the posterior fossa of the base of the skull bones. The bullet was fragmented inside and perforated out of the body through the described exit wound, with part of the shot settling under the head scalp opposite the exit wound. We extracted the retained part of the bullet and kept it preserved through a chain of custody for further examination by the criminal lab.
Autopsy of the chest and abdomen revealed the path of the bullet in the anterior left part of the chest: penetrating through the eighth left intercostal space into the chest cavity causing a tear of the left part of the diaphragm, rupturing the spleen and passing through the tenth intercostal space about 10 cm to the left of the spine via the exit wound hole previously described.

Following the path of the bullet, whose entry wound was located at the abdominal midline, we found that it caused a tear in the small intestine and passed through the ninth intercostal space 10 cm away from the spine and exited at the left posterior axillary line as previously described. The path of the entry wound at the right lower part of the back showed that the bullet had lacerated the right kidney and caused a fracture of the transverse process of the L1 vertebra, in addition to a tear in the small intestine and the left side of the diaphragm and fractures of the sixth and seventh ribs, which caused severe hemorrhage in the subcutaneous tissue in the left part of the chest. The bullet retained in the subcutaneous tissue of the left shoulder and was then extracted and preserved through a chain of custody for further examination by the forensic lab.

The forensic investigation lab confirmed that the bullet was fired from the gun found in the hand of the deceased. The firearm experts confirmed the assumption of near firing by revealing the same type of gunpowder from the deceased’s hand, which was holding the gun at the time of death, and they also confirmed the forensic autopsy findings concerning the suspected entry and exit holes in the clothes. In addition, they commented on the scene of death, particularly on the door and windows, which had been secured from the inside, and on the inaccessible fourth-floor residence of the deceased.

The case was declared a suicide by the final report of the attorney general’s office owing to the stated findings and their correlation in the investigation to all the suspects (including the brother) and all the data related to the deceased, especially his confirmed history of severe financial problems.

3. Discussion

Suicidal firearm wounds may involve only one area, e.g., the head, or multiple areas, such as the head and chest. Multiple gunshot wounds confined exclusively to the head are the least common, whereas those of the chest are the most common. A lack of knowledge of anatomy, flinching at the time the trigger is pulled, defective ammunition, ammunition of the wrong type, and suicide by means other than firearm use are associated with a high incidence of a single wound.

Figure 3 (a) Two firearm exit wounds in the back on the left side (black arrows). The unusual entry wound at the right of the back (white arrow). (b) Corresponding gunshot perforating holes and tears in the back of the outer garment (Thobe). Note the cruciate tear (entry) corresponding to the unusual entry wound (white arrow).

Figure 4 (a) The scalp showing the entry wound against the vault. (b) Internal beveling was evident at autopsy with radiating fissure fractures around the main fracture.
caliber, or just missing a vital organ are factors that account for such multiple wounds. Occasionally, it has been shown that individuals can shoot themselves in the head with two different weapons simultaneously. Wounds that may appear to be fatal on initial examination may not be so on autopsy. Rarely, an individual will use two totally different methods in an attempt to commit suicide.6

Though many findings were unusual in this case, the use of the individual’s own handgun in his suicide was consistent with the results in other cases of previous studies.6,7 A study on weapon location following suicidal gunshot wounds revealed that the gun remained in the hand of the deceased person in 24% of the cases, while in 69% of the cases, the gun was on or near the body but not in the hand (i.e., touching the body or within 30 cm of the body).6 Due to the combination of fear of violent crime and the mistaken impression that guns offer a measure of home security, people often choose their own guns in suicides because of their accessibility. Public health research studies have shown that fatal outcomes of suicide attempts could be prevented more often if these highly lethal means were less readily available at home.7

Regarding the place of suicide, the deceased of the current study was found indoors. This is in line with the study conducted by Blumenthal, who stated that 92% of suicidal fatal gunshot wounds to the head occurred indoors.5

The gunshot entry wound to the head was in the middle of the skull vault. This was not consistent with most of the previously published literature, in which the right temple was the most common site of gunshot entrance wounds, followed by the mouth, left temple, and submental regions. It was interesting to note that a small but appreciable percentage of individuals shot themselves in the back of the head.3,8–11

The range of fire in the head gunshot wound in the current study was defined as a contact gunshot wound. This was in accordance with a previous study on suicidal gunshots to the head, in which more than two-thirds of the suicidal cases were classified as being contact gunshot wounds to the head.5

Moreover, the trajectory of the gunshot wound to the head in the present case has a downward path, in contrast to those discussed in other studies that revealed an upward trajectory path in more than half of suicide cases, a horizontal trajectory path in a quarter of the cases, and, finally, a downward trajectory path in less than one-fifth of the cases.5,9,12

In the present study, other gunshot wounds were documented in the abdomen, chest, and back. These are considered common locations for a suicide gunshot wound secondary to a gunshot wound to the head, as explained by Molina et al. in a previous study, in which they arranged the sites of infliction in the following order: the chest, followed by the abdomen, and rarely in the back.13

Molina et al. affirmed that, when it comes to a shotgun wound to the head, it is 7.6 times more likely that the wound is a result of suicide rather than homicide. However, for several other types of wounds, the reverse is true. In cases of multiple wound locations, it is 85.6 times more likely that the wounds are a result of homicide rather than suicide. The same is true for wounds to the back of the head and back of the trunk (13 which are 25 times more likely to be homicidal).

Toxicological analysis in the current study was negative for alcohol in the blood. This is consistent with a previous study that revealed that, in a large percentage of suicide cases (60%), the decedents had no alcohol in their blood.5

4. Conclusion

This study is considered to be an unusual fatal suicidal firearm case owing to several different factors, including the multiplicity of the gunshot wounds, their different locations on the body, the uncommon site of the gunshot entrance to the head, and its peculiar downward trajectory. The first response was to refer to this case as a homicide, but competent crime scene examination and proficient investigations regarding the circumstances and history of the deceased person suggest that it is more likely to be a suicide.

5. Recommendations

Despite the overwhelming profile that emerges from the aforementioned data, it should be stressed that each case should be handled individually and with extreme care, bearing in mind the time-honored principles of a good case history, a thorough scene examination, meticulous autopsy techniques, and special investigations.

We believe that one of the better ways to lower the high number of firearm-related suicides is to place obstacles in gaining access to firearms. We encourage health care professionals to screen patients for depression and signs of suicidal behavior, to counsel all patients on the inherent health risks associated with keeping a firearm in the home and the immediate removal of such lethal weapons from their homes, and to involve a behavioral health professional.

References


