Case Report

Suicidal Shotgun Wound on Chest: An Uncommon Site with an Unusual Track

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Abstract

The wounds in the suicidal cases due to firearms are generally in head region. When such a wound is found at other site an eyebrow of suspicion is raised. We report a case in which the deceased had a gunshot wound over his chest. The weapon used was a long double barrel shotgun. The track of the wound raised the suspicion towards sustaining of the gunshot injury in a homicidal manner by the use of that specific weapon. However when the circumstances in which the body was found were examined together with the account of the witnesses and police investigation report, it was noted that the theory of police regarding the suicidal manner was a certain possibility. By this case we want to reiterate a well-known fact that the Forensic Pathologists should not rush to opine about the manner of the case. Instead they should interpret their findings in light of the detailed history, circumstantial evidence, witnesses etc. This case is also being reported because of the unusual manner of sustaining a gunshot wound at a less commonly involved site and from a weapon unlikely to be used for suicide.

Key Words: Suicide, Shotgun, Firearm, Head Region, Weapon

Introduction:

Misuse of firearms is an ever growing menace in the society. They can be used either for homicide or suicide with accidental cases not far behind. Shooting by a firearm is the most common method of suicides in males in United States. [1] In India the suicides by firearm are not very common (0.4%), with Hanging being the most common. [2]

This may be attributed to less availability due to stricter laws regarding firearm possession. In suicidal cases, Hand guns are used more frequently as compared to rifles or shotgun and the site of the wound is usually in head region both in the handguns and long weapons. [3] The type of weapon and unusual position of the wound may sometimes leads to doubt in the mind of investigators.

We present a case of a middle aged male who committed suicide with a shotgun with entry wound at a less common site and an unusual track.

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This case is being reported because the post-mortem examination initially raised the doubt of homicide in the mind of autopsy surgeons. Then the findings were assessed with the circumstantial evidence, witnesses, type of weapon used and the manner was concluded as suicidal.

Case History:

The deceased was a middle aged male found dead in his office. There were no eyewitnesses and nobody heard a gunshot. He was brought for post-mortem examination.

Autopsy Findings:

The deceased was wearing a blood soaked t-shirt with a hole of diameter 2.5 cm over the left chest region with fibres turned inwards, a blood soaked vest with a hole of diameter 2.5 cm present in the upper part just below the neck border with fibres turned inwards. Both the holes were in correspondence with each other and underlying gunshot wound. Other clothes were also blood stained.

The deceased was thin built and moderately nourished, and 177 cm in height.

The rigor mortis was well developed in all the four limbs and post-mortem lividity was seen over the back and dependant areas except pressure areas.

External Injuries:

A lacerated gunshot entry wound (Fig. 1) of size 2 x 1.5 cm was present over left side of chest. The wound was situated 137 cm from

left heel, 6 cm from the midline to the right and 17 cm below the left shoulder. The wound was associated with an eccentric reddish blue contused abrasion collar of size 2 x 2 cm over the medial aspect of the entry wound. The wound was surrounded by a rim of reddish blue contused abrasion of size 0.1 cm suggestive of muzzle imprint.

Internal Examination:

The track of the wound was directed downward, backward and laterally, shattering the fourth left rib underlying the entry wound. (Fig. 2) The wound was further extending in the chest cavity passing through left lung involving anterior aspect of lower lobe with about 1500 ml clotted and fluid blood in the pleural cavity.

The seventh, eighth and ninth ribs were fractured in the posterior axillary line on the left side of the chest associated with underlying haematoma. Multiple metallic pellets are present diffusely throughout the track of the wound in the back of the lower chest.

A red coloured plastic wad (Fig. 3) of length 2.5 cm and diameter 1.5 cm along with multiple metallic pellets are present in the subcutaneous tissue at the level of ninth ribs in the left posterior axillary line creating a bluish contusion of size 10 x 6 cm. (Fig. 4)

The contusion is situated 132 cm above the left heel, 15 cm from midline and 28 cm below the left shoulder.

The visceral organs were pale. The cause of death was ascertained as **Haemorrhagic shock due to gunshot wound to the left lung.** The injury was opined as ante-mortem in nature and sufficient to cause death in ordinary course of nature

Discussion:

We will first have a look at the characteristics of the shotgun wounds of the trunk. The shotgun contact wounds to the chest are different from the entry wounds over head. They do not produce as destruction as they produce in head. The contact wounds will be of circular in shape and having the diameter equal to the bore of the weapon. No soot will be surrounding the entrance site, but edges of wounds are blackened by gases.

There will not be any splitting of skin as the gases disperse in the surrounding soft tissues and visceral cavities. These gases will cause the abrupt flaring of the chest or abdominal cavity leading to muzzle imprint of weapon. [4] The entry wound present in our case typically shows all the features. (Fig. 1)

The exit wounds are uncommon in trunk as less energy is possessed by each pellet because of the small size and also due to low muzzle velocity of the weapon. Commonly a bruise is present along the attempted exit wounds [5], as seen in the present case. (Fig. 4)

The track of the wound was going downwards, backwards and laterally. This considered with the length of the double barrel shotgun weapon as described by the investigation officer (length of the barrel was about $2^{1/2}$ feet and of the butt was about $1^{1/2}$ feet) (Fig. 5) raised the doubt about the suicidal theory of the police.

The possibility of the deceased being killed by somebody else while pointing the gun downwards on the chest of the deceased also came into the thought.

Crime scene photographs revealed the deceased lying in a prone position over a shotgun. (Fig. 6) An executive chair with wheels was present towards his legs and his head was towards a nearby wall. No office staff and family member revealed any kind of suspicion towards foul play or motive suggesting assault.

The investigating officer reported that the deceased used to run his office from a rental accommodation. In the evening when he didn't returned to his house, his son called on the landlord to check for him. The landlord found the door to be locked from inside. He then called the police who broke open the door. No suspicion was found regarding the movements of family members and office staff.

Di Maio [3] explained the trajectory of the bullet or pellets in self-inflicting wounds to the chest and abdomen from rifles and shotguns. The individual doing suicide braces the butt of the gun against the ground and lean over the weapon. They hold the muzzle end against chest or abdomen with the left hand and try to reach the trigger with the right hand.

In this process they rotate their body counter-clockwise. So due to above phenomenon the bullet follow a right to left part.

As the victim is hunched over the gun, the trajectory of the bullet is downwards and not upwards. The final trajectory will be downwards, and right to left in a right handed person, which is consistent with the track of the wound in our case. So keeping in totality of the circumstances and witnesses we were of the opinion that the theory of the police is possible and can be accepted. The police later recovered a suicide note also which confirmed our diagnosis.

Druid [6] reported that 97% cases of suicidal had single wound. The most common direction of wounds on left chest was backwards, downwards and to the left.

Strajina et al [7] studied series of cases involving suicidal single gunshot injury to the chest. The left side of chest was found to be most commonly involved area. The most common wound track was backwards, downwards and from right to left.

Demirci [8] in an eight year study reported 40.4% of the shotgun death cases being suicidal. The most preferred site was head (59.7%) and chest region was involved in only12.3% of the cases.

The shooting distance was contact/near contact in 55 cases (96.5%). The findings in our case are consistent with the above studies.

Conclusion:

During the autopsy if any such findings are noted by the Forensic Pathologist, he should not rush to opine about the manner of the case. Instead, he should interpret his findings in light of the detailed history, circumstantial evidence, witnesses etc. Any wrong opinion specifically mentioning the manner as homicidal may put the pressure on police who can apprehend an innocent person on the basis of minor suspicion leading to his harassment.

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Fig. 1: Entry Wound over Chest

Fig. 2: Injuries to Rib Cage below Entry Wound

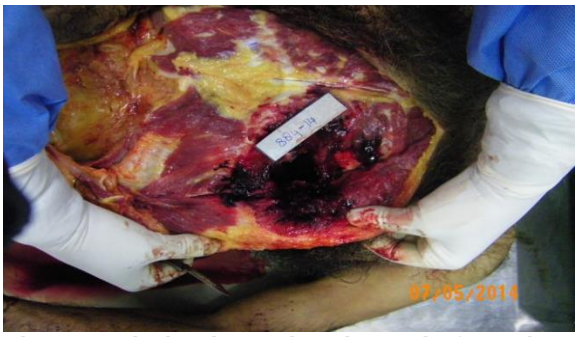

Fig. 3: Red Plastic Wad at the end of Track

Fig. 4: Bluish Contusion over Back

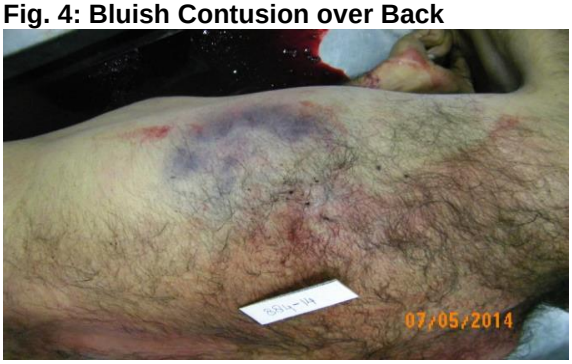

Fig. 5: Shotgun Used for Suicide

Fig. 6: Position of Body at the Crime scene