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## SUICIDAL FIREARM INJURY MASQUERADED AS ACCIDENTAL FIRE ARM INJURY-A CASE REPORT

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**Abstract:** Suicides are the most import manner of unnatural death which means killing of an individual by himself. The majority of suicides are triggered by depressive behavior due to domestic disharmony and work stress and financial deprivation. Suicide by firearm injuries reported as the more frequently adopted method of suicide in the employees working for army, navy and working the police department which can be masqueraded as accident, which may take the investigation to a wrong end. It is a paramount task to the investigation officer to decide the manner of death for all departmental and medico legal purposes. The following case history reiterates the importance of detailed postmortem examination, toxicological analysis, visiting to the crime scene and interviewing the persons related to the incident to solve the case.

**Keywords:** Fire Arm Injuries, Wound Ballistics, Suicides, Meticulous Examination.



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## INTRODUCTION

Suicide is defined as self immolation as per IPC 309, i.e., killing of human being by himself is a leading manner of unnatural death.<sup>1</sup> The majority of suicides were aggravated by depressive behavior, domestic disharmony and work stress. Investigation of suicidal death is a common for death investigation encountered by a forensic expert in his routine practice. The circumstances of death, autopsy findings and reports pertaining to toxicological analysis are essential parameters pertaining to decide the manner of death. However, certain cases pose professional challenge to the forensic medicine expert in order to decide the manner of death. Here one such interesting case of suicidal fire arm injury masqueraded to that of accidental fire arm injury has been presented.



**Picture-1: Firearm entry wound**

### **Case History:**

A dead body of about 52 year old Police constable was brought to the mortuary of Government Medical College and General Hospital, Anantapuramu with a alleged history of accidental firearm injury over the chest and left shoulder. The case was booked under 174.Cr.Pc. (Death Cause not known) and inquest conducted over the dead body by the Mandal Executive Magistrate Anantapuramu indicated that the death was resulted due to accidental firing of the 0.303 rifle while deceased who was on duty at District treasury Office, Anantapuramu and was cleaning the said fire arm at 12 a.m. on 19-05-2013.

On Examination following ante mortem fire arm injuries were noticed over the body of the deceased:

1. One fire arm entry perforating injury of oval shaped present over the front of the chest on left Side (Picture-1). The injury was placed 09 cms below the suprasternal notch adjacent to

the midline in an area placed between 1<sup>st</sup> to 4<sup>th</sup> intercostals spaces, 37cms below the top of the head, 8cms medial to the left nipple, 12 cms medial to the right nipple, 155 cms above the feet. The Injury was measuring 4.5 x 3 cms x 3 cms and exposing the chest cavity. The superior margins had semi lunar shaped contusion rim of 0.5 cms width. Margins also revealed contusion collar, abrasion collar and had inverted margins exposing the underlying contused soft tissues & blood clots in the chest cavity over the heart & left lung. The hairs of the chest that are present around the injury are burnt and singed. Chest cavity was exposed up to a depth of 6cms in the region of the injury and floor of the injury revealed fractures of 1<sup>st</sup> to 4<sup>th</sup> ribs. On further examination, hemothorax present in the chest cavity on left side. The injury is directed down wards, inwards and to the left side.

2. One Stellate shaped Fire arm Exit injury (Picture-2) present on the left side on the superior part of the shoulder, placed 2.5cms below the root of the neck over the outer part of the shoulder, 3cms left lateral to the midline over the back of the neck, 6cms below the top of the left shoulder level, 10cms below the left ear, 10cms below the external protuberance level. Margins were contused & irregularly lacerated & everted. The injury is measuring 3.5 cms in length and 3cms in width and exuded liquid blood and small blood clots on application of pressure over the injury. This injury is placed at a distance of 28cms from the injury no.1 described above and is directed inwards, downwards and to right.

3. On internal examination of chest, pleural lacerations and hemothorax was present on left side. The soft tissues present adjacent to the wound of entry are contused. The soft tissues in the left supra clavicular region were contused over an area of 16 x 3 cms. Soft tissues present above and behind sternum bone are diffusely contused and the sternum bone revealed a gutter fracture in the area present between 1<sup>st</sup> and 4<sup>th</sup> ribs and also revealed a through and through fracture in an area placed between 4<sup>th</sup> and 5<sup>th</sup> costochondral junctions on left side. 1<sup>st</sup> to 4<sup>th</sup> Ribs were shattered on left side adjacent to their costochondral junctions. The chest cavity is exposed over an area measuring 9 x 8 cms through the region of the injury.

4. **TRACK TAKEN BY THE BULLET:** The track of the injury is present between the entry and exit wounds in an upwards, forwards and cephalic directions and is measuring 22 cms in length, 3cms in width. The structures injured in the track of the injury include the soft tissue of the left side of the chest wall, middle mediastinum, heart and lungs, posterior wall of the ribcage on left side. The injured soft tissues are displaced radically throughout the tract and floor of the track filled with blood clots. Heart revealed burst injuries. Lower lobe of the left lung is injured revealed perforating injury of 10 x 4 x 1 cms dimensions and upper and lower lobes of the right lung revealed multiple perforations. Soft tissues that are present between the 5<sup>th</sup> thoracic vertebra to 5<sup>th</sup> cervical vertebra in a below upward direction. About 1.5 lit of liquid blood admixed with blood clots was present in the thoracic cavity.



**Picture-2: Firearm exit wound**

After Careful examination of the exit and entry wound, internal examination, circumstantial issues as presented in the inquest report, Chemical analysis report of Andhra Pradesh Forensic Science Laboratory, Hyderabad and examination of the alleged fire arm, opinion as to death was opined as “**Hemorrhagic Shock resulting from firearm injuries**”.



**Picture-3: 0.303 Rifle (alleged weapon)**

#### **DISCUSSION AND CONCLUSION:**

The fire arm is defined as any instrument / device, which propels projectile by the expansion of gases generated by the combustion of an explosive substance.<sup>2</sup> The fire arms are classified as rifled weapons and smooth bored weapons.<sup>3</sup> The rifled firearms were sub classified in to low

velocity firearms which will have a velocity of 360m/sec , medium velocity firearm which will travel with a speed of 360-750m/sec and high velocity fire arms with a speed of >900 m/sec and above. Bullet (French boulette means little ball) is the projectile of the rifled firearm that leaves the muzzle when it discharges.<sup>4</sup> Traditional bullet is made up of soft metals like lead and antimony and has a rounded nose. The caliber of a bullet is its cross sectional diameter. The caliber of a rifled firm in the distance between two opposite lands present in the barrel of the fire arm.<sup>5</sup>The alleged weapon (Picture-3) which caused the above injuries falls in to the category of rifled firearm. The alleged weapon which caused the above injuries falls in to the category of rifled firearm with a caliber of .303 and its range of firing is about 1000mts and velocity is above 900m/sec. while describing the range of fire, when the range is very close of in contact with the surface of the body it is known as point blank range. In case of a rifled firearm injury, contact shot denotes one where the entry wound over the trunk, Stellate or cruciform wound will not occur because gases discharged from firearm will be able to expand into the chest cavity or soft tissues and muzzle impression may be present around the wound. Burning, blackening, deposits may be present in the track of the wound. Hair nearby may get burnt or clubbed by fire/heat.<sup>6</sup>

If a rifle fire arm is discharged accidentally, the bullet may be released in any direction and may damage the properties, living and non living beings present nearby besides injuring the person. The possibility of production of muzzle impression will be low over the body of the injured person. In this case there is no history suggesting damage to the property or any living /non living being in the scene of occurrence is absent. The inquest report states that a 0.303 rifle was recovered from the scene of occurrence which had an empty bullet cartridge in the barrel of the rifle and four live bullet cartridges in the rifle.

The injuries described above matched with the all the parameters of the injuries that can be inflicted by the firearm produced for the examination. However the entry wound produced revealed the impression of the muzzle of the barrel of the firearm. The pattern of firearm wound indicate that it is an suicidal injury as it is proved from the impression of muzzle, situation of the entry and exit wound over the body of the deceased, direction of the bullet tract and based on the position of the deceased at the time of discovery of the body. On thorough investigation as per basic scientific principles of ballistics (wound ballistics) it can be clearly stated that the firearms injuries present over the body of the deceased correlates to position that the fire arm butt is placed over the ground and muzzle end of the barrel is in close contact with the skin of the front of the chest of the deceased and the trigger is released in a forward bending position. All these aspects point out that the deceased died due to a suicidal attempt rather than an accidental fire arm injury.

The concocted history interfered with the investigation & forced the I.O interrogate the deceased relatives. After external & internal ballistic examination & after police interrogation it came to light that the deceased was died due to self immolation by fire arm. Suicide is the most serious crime which damages the benefits of the dependents of deceased in every aspect. Hence the aspect of accidental fire arm discharge is put forwarded as the cause of the death in this case rather that a suicidal death. The incidence of suicide is increasing worldwide because of changing life style, domestic disharmony, financial deprivation & easy availability of fire arms. In this case the firearm was readily available for the deceased for committing suicide as the he works for police department. The time and place where the incident occurred satisfies the ideal situation required for committing a suicide. The suicides among the police and defense personnel mainly results from work stress, prolonged separation from the families, lack of entertainment and depression. Hence the Government should concentrate on these aspects and should provide mental and psychological supports to the personnel working in these departments by means of counseling, psychiatrist consultations and providing basic facilities to relieve the stress on these individuals.

Given a successful police investigation, firearm injuries are almost certain to provoke litigation whether this is in civil or criminal courts. The forensic Medicine experts are likely to be aware of this; the surgeon may be aware but he or she will almost certainly be an unwilling actor on the legal stage.<sup>7</sup> This case reiterates the importance of a meticulous and detailed postmortem examination, detailed crime scene investigation, interviewing the relatives of the deceased and investigation officer on the circumstances surrounding the incident is important in establishing the manner of death. Another point is note worthy in this case is that the forensic medicine experts and doctors who conduct autopsies should be aware of the fact that there may biasing statements from the police, relatives and other persons related to the case and he they should have an open mind before he approach to attempt the case and should think all possibilities of death related to the particular incident before coming to a conclusion. He should also take the support of lab and toxicological screening wherever it necessary to solve the case.

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