

Case Report

An unusual and rare case of burn: challenge to cause and manner of death

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ABSTRACT

In the brought dead cases where the dead body is completely charred pose difficulty to autopsy surgeon in commenting cause & manner of death. Many a times, scene of incidence, the inquest report, history narrated by relatives and postmortem findings may not go hand-in-hand. Suicides by burning especially by females are very common in India, but charred (burn) body without conflagration in which manner is suicidal is rarely occurred and reported. "Char means to burn to charcoal". Investigation in this type of cases by police officer is again a matter of his knowledge and experience. Here we are reporting such case; a well built, 26 years old married but separated, mentally stressed female living with her mother and brother since 3 years, was found in bathroom in a charred condition on 03/01/2012 around 06:30 hours. As per inquest, manner of death is suicidal. The autopsy findings did not reveal exact cause of death but raised the suspicion of homicide. So the present case report will make everyone to think over not only importance of cause and manner of death in case of charred body but also to reinforce the investigating authority for thorough investigation in favor of justice to the victim.

Keywords: Charred body, Scene of incidence, Experience of police, Investigating officer, Cause & manner

INTRODUCTION

"Fire is a dangerous servant and a fearful master".

In all fire deaths, main facts have to be established are¹ identify of the deceased, whether the victim was alive at the time of the fire (antemortem/postmortem). The cause of death, the manner of death and any other factor contributed to either cause of the fire or the death.

In this case, charred body was found in a bathroom, brought by police as a case of suicide for the postmortem examination. "Char means to burn to charcoal". It is, in fact, extremely difficult to char a body due to its high water content. Household fires generate temperature seldom exceeding 1600°F (1200-1600). The optimum

temperature for cremating a body is generally in the 1800 to 2000°F range, with 1^{1/2} to 2^{1/2} hours needed to complete cremate the body. Ordinary house fires lack the intensity and the time to completely incinerate a human body.²

CASE REPORT

On 03/01/2012 at 15:00 hours, assistant police inspector of police station, Yavatmal city brought a case of charred burn body for postmortem examination to the department of forensic medicine, Shri Vasantnao Naik govt. medical college, Yavatmal. As per history, narrated by relatives and inquest report; a well built 26 years old married women, separated from husband after 15 days of marriage, mentally stressed living with her mother and

brother since 3 years of separation from husband. As there was hearing of the case of “Alimony (compensation)” in the court of Wardha district on 02/01/2012, it was attended by brother, mother of the deceased and deceased herself. After returning, at night they (Brother, mother and deceased) slept at 22:00 hours on 02/01/2012 and on the morning of 03/01/2012 at 06:30 hours deceased was found in bathroom in a charred condition.

History narrated by close relative (brother)

As per the history given by police, which was narrated by brother of deceased: She was under stress due to her separation, for which she was already on psychiatric treatment. She had committed suicide in a closed bathroom by pouring kerosene and immolated herself between 22:00 hours of 02/01/2012 to 06:30 hours of 03/01/2012 from where the dead body was recovered.

Autopsy findings

External examination: (Figure 1 & Figure 2)

Dead body presented in two pieces, upper segment of the body completely charred and both lower limbs having superficial burn, separated from upper segment at the level of upper 1/3rd of thigh. Both upper limbs charred. Right upper limb is abducted at shoulder and flexed at elbow joint. Left upper limb is completely charred into ashes. Both lower limbs are straight with superficial burns.



Figure 1: Complete charred body.

Surface wounds and injuries: Upper segment of the body is completely charred. Both lower limbs show patchy superficial burns over whole area except upper femoral area showing deep burn with charring. Superficial burn margins and bases are pale reddish- yellow with few scattered blisters. On prick opening, blister contains air, base of the blisters pale yellow and dry. Evidence of sharp and clean-cut margins is seen encircling the complete upper 1/3rd of both thighs involving skin,

underlying muscles, tissue and bones with blackening and no blood infiltration appreciated. Fracture of upper 1/3rd of both femur bones with clean-cut margins, blackening and no blood infiltration appreciated.



Figure 2: Clean cut sharp margins over both lower limbs.

Internal examination

Evidence of heat cracks is seen over both temporo-occipital region of skull with cooked brain matter. Neck structures are completely charred and unidentifiable. Thoracic cage is completely charred and thoracic organs are seen as blackish mass. No fluid blood available and also no blood hematoma could be found. Abdominal organs charred. Liver and spleen identified, forming a black mass. Pelvic organs are completely charred into ashes, unidentifiable.

Material preserved

Tissues from upper clean-cut margins of both limbs send for histopathology to rule-out ante-mortem injury (vital reaction). Mass from thorax and abdomen was kept for chemical analysis to rule-out poisoning/ drugs. Partly burnt clothes and skin from thighs were kept for analysis for detecting accelerant used for burning.

Note: No fluid blood available or hematoma found for detection of carbon monoxide level.

Spot (Place of incidence) visit: (Figure 3)

We visited the spot with Investigating Officer, on next day, which was 16km from Yavatmal. A separately placed latrine and bathroom was situated, 35 feet away and in front of the house. Latrine and bathroom is made of brick-concrete wall and roof of tin, bathroom size (place of incidence) 8x7 feet with a wooden door and small concrete window of size 1.5x1feet. Bathroom is totally black with carbon particles and a inner latch of the door was broken by kicking the door which was locked from inside (as per history given by brother of deceased).

Analysis report: Histopathology report not significant. Viscera report neither revealed any poison nor accelerant used for burning.



Figure 3: Scene of incident (Bath room).

DISCUSSION

In the above case cause and manner of death is big question. After postmortem examination, no exact cause of death was revealed. Considering the scene of incidence, her psychological condition and history narrated by close relatives, manner may be suicidal.

Points in favour of suicidal manner

A married but separated after 15 days of marriage, mentally stressed female. Living at her brother's home since 3 years from separation & was dependent on him. On psychiatric treatment but no previous history of suicidal attempts. (Diagnosis is not known) Locked bathroom. (There are so many homicidal burn cases in the closed room in which the inner latch of door was found locked).³ Considering the case history, autopsy findings and scene of incidence raise the questions of homicidal manner.

Points in favour of homicidal manner

In the instance case, it is very interesting to note that dead body presented in two pieces, upper segment of the body completely charred and both lower limbs completely intact having just superficial burns, separated from upper segment at the level of upper 1/3rd of thigh. Whether it is "Wick effect"? But the wick effect does not rule out manner i. e. either suicide or homicide.⁴ Is it possible to get totally charred burn body in a close room by pouring kerosene (suicidal)? In fact it is extremely difficult to burn a body due to its high water content.⁵ It is possible to get totally charred burn body in a close room by pouring kerosene (homicidal?) if constant source of inflammable agent and plastic material is available. Charred burn body without conflagration in which manner is suicide is rarely occurred and reported. (No data available of such cases). The body of an adult does not burn completely in a burnt

house, as the temperature usually does not exceed 650°C.⁶ The optimum temperature for cremating a body is generally in the 1800 to 2000°F range, with 1^{1/2} to 2^{1/2} hours needed to completely cremate the body. Ordinary house fires lack the intensity and the time to completely incinerate a human body.⁷ The only way to properly cremate a body outside the crematorium is to elevate it, so that as it burns, the melting fat will feed the fire and contribute to the consumption of the body.⁸ Bodies lying on flat surface tend to be extensively charred on all surfaces, except the surface on the ground. Here, there may be excellent internal preservation.⁹ Evidence of sharp and clean cut margins, encircling the complete upper 1/3rd of both thighs involving skin, underlying muscles, tissue and bones is highly impossible to have such type of picture in a case of burn. Both femur bone fractures in this case are not heat fractures, because wherever soft tissue surrounding a bone is scant or thin, the bone shows charring, calcination and splintering with sharp, clean cut heat fractures, where the bone is deeply embedded in muscle as in femur the action of heat on a bone produces a molten condition, characteristic of fusion by heat.¹⁰ The posture of a body that has been exposed to great heat is often characteristic, pugilistic attitude, occurs whether the person is alive or dead at the time of burning. The legs are flexed at the hips and knees and arms flexed at elbows. This stiffening is due to the coagulation of proteins of muscles and dehydration, which cause contraction.¹¹ But in the instance case position of lower limbs was straight. Superficial burn margins are pale reddish- yellow with few scattered blisters, on prick opening, blister contains air, base of the blisters pale yellow and dry that is clear signs of post-mortem burn.

CONCLUSION

It is not always possible to find exact cause of death on postmortem findings only in charred burn body. Manner is more concerned to the investigating authority and judiciary. It is matter of knowledge and experience of investigating officer to investigate such cases. As inadequate investigation and no allegation may lead to aborted justice to victim, because homicidal case may be considered as suicide and the chapter may be closed. Therefore it is very important to establish the manner, so that "No innocent may be charged and no guilty should escape".

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