GAP INDIAN JOURNAL
OF FORENSICS AND BEHAVIOURAL SCIENCES
(ISSN – 2582-8177)
Globally peer-reviewed and open access journal.

PARTIAL BLOODSTAINED FOOT IMPRESSIONS IDENTIFIED THE PERPETRATOR IN A VIOLENT CRIME: A RARE CRIME SCENE INVESTIGATION REPORT

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Abstract

Background: *Crime scene or Scene of crime is a familiar term for forensic and non-forensic personnel. Crime scene mystery can be solved from the physical evidence found at the crime scene. Footprint/foot impression is a valuable physical evidence, but ignorned by some crime investigators, because of incomplete knowledge in footprint science.* ***Gist of the case:*** *It was alleged that somebody had murdered a youth aged 21 years while he was sleeping on the pial of his hut in a village in Tamilnadu, India. The Police have registered a case under section 302 IPC, and Forensic Service was requisitioned to assist in the investigation and to find out the accused scientifically.* ***Crime Scene Observation:*** *Multiple cut injuries around the neck region was noticed. His back was facing the roof, and blood pooled near the door junction. Bloodstained footprints were seen near the dead body. The behavior of a person during the crime operation is reflected in the form of foot impressions at the scene.* ***Conclusion:*** *The accused was fixed based on comparing bloodstained footprints found in the crime scenes and the suspects' footprints.*

Keywords: *Forensic Science, Crime Scene Investigation, Homicide, Blood stained Foot Impression*

INTRODUCTION

Crime scene or Scene of crime is a familiar term for forensic and non-forensic personnel. TV serials and movies show crime scene investigations through famous heroes and heroines who used to solve crimes within hours. But in reality, the crime scene investigation is a very challenging and painful job, and sometimes, solving cases may take weeks, months or even years [1]. Forensic science is the application of science to crime and solves mysteries in the legal system. Crime scene investigation and forensic science have dramatically changed in recent years. Forensic science starts from the crime scenes. In other words, Forensic science born from the observation and needs arising from the investigation of criminal events, followed by crime reconstruction [2,3]. Whenever a crime is reported at police stations, Police officers are the ones who register a case, visit the crime scene and protect the crime scene for further examination. In countries like India, Police officers seek the service of forensic scientists from Mobile Forensic Science Laboratory (MFSL) to visit the crime scene and assist the investigation. Forensic investigation is based on the evidence found and located at the crime scenes since criminals always leave evidence either from the body in the form of impressions like hand [4] or foot/toe impressions [5,6] or from their belongings like tools to create tool impressions. Blood is one of the most essential biological traces mostly found in violent crimes. Generally, blood evidence is usually more informative in cases where a suspect and victim are in contact or proximity [6]. For example, if a suspect stabs or beats a victim, there could be an exchange of blood between the victim and the suspect. Foot impressions form valuable evidence in the crime scenes found either in 2D [7] or 3D[8] forms. In real crime scenarios, it is cumbersome to find out the bloodstained footprint at crime scenes, and sometimes, the crime scene investigators neglect the evidence, considered unfit for comparison [9]. The corresponding author, Professor Nataraja Moorthy (herein TN), presented here a case report regarding the solvation of a crime through partial bloodstained footprints in a violent crime of homicide.

GIST OF THE CASE

It was alleged that somebody had murdered a youth aged 21 years while he was sleeping on the pial of his hut in a village in Tamilnadu, India. The Police have registered a case under section 302 IPC, and Forensic Service was requisitioned to visit the scene and assist in the investigation forensically. The corresponding author (TN), a former Government Forensic Crime Scene Investigator had immediately arrived at the crime scene.

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FORENSIC CRIME SCENE EXAMINATION

It was a small village, and most villagers lived in huts. The dead body was found on the pial of his thatched hut, as shown in Figure 1. TN enquired with the villagers, and they informed him that nobody knew about anything. The deceased belonged to this village, and the crime scene was in his hut. His parents went to the nearby town for their work in building construction site.

Figure 1: Dead body found on the pial of a hut

The deceased did not go for any work and always roamed the villages and towns. The incident occurred in the daytime, around 2 pm, when the movement of villagers was less. Sometimes, he used to sleep in the pial of the hut in day times.

Figure 2: Victim with multiple cut injuries

His head was found near the entrance of the wooden door of the hut, and TN noticed multiple cut injuries around the neck region. His back was facing the roof, and a blood pattern found near the wall and floor, as shown in Figure 2. TN also noticed a blood pool stagnation at the door end, as shown in Figure 3, and part of the blood crawled from the top of the pial to the front side as "run down pattern" shown in Figure 1. Importantly, TN noticed 2D bloodstained foot impressions in the inner room of the hut, a valuable physical evidence but very rarely available in homicide cases. However, challenges arose here that all foot impressions found to be partial or incomplete, with missing heels in some and missing toes in some impressions and thus no full prints or

complete footprints available. Researchers have indicated that footprints show individual characteristics [10] and provide more information than fingerprints [11]. Since TN was a declared "Footprint Expert, " he collected the foot impressions, examined in the crime scene itself, and ruled out the possibility of multiple offenders. He confirmed that only one person was involved in this homicide act. Also, the victim had no defence wound on the arms, and hence TN suggested that the victim might have been under sleep or influence. Since there is no footprint record like fingerprints, TN advised the Police Inspector to bring suspects to his Mobile Forensic Science Laboratory (MFSL) for footprint collection for comparison analysis. The body was then sent to the Department of Forensic Medicine for autopsy examination, and TN also attended the autopsy as pleased by the Professor of Forensic Medicine, also his good friend. During autopsy, the viscera, controlled blood samples were collected for the onward transmission to the Regional Forensic Science Laboratory for biological and toxicological analysis. A bloodstained knife (in Tamil, "aruval" made of iron) was found near the hut and that was also collected. The bloodstained samples collected from the floor and wall and control samples were sent to the Regional Forensic Science Laboratory.

One week later, the Police Inspector had brought four suspects to the office the Mobile Forensic Science Laboratory of TN. The suspects' 2D footprints were collected by using an inking technique for analysis. The crime scene footprints and suspects' footprints were examined bu TN, and the crime scene print found tallied with one of the suspects (X) who was from the neighbouring village.

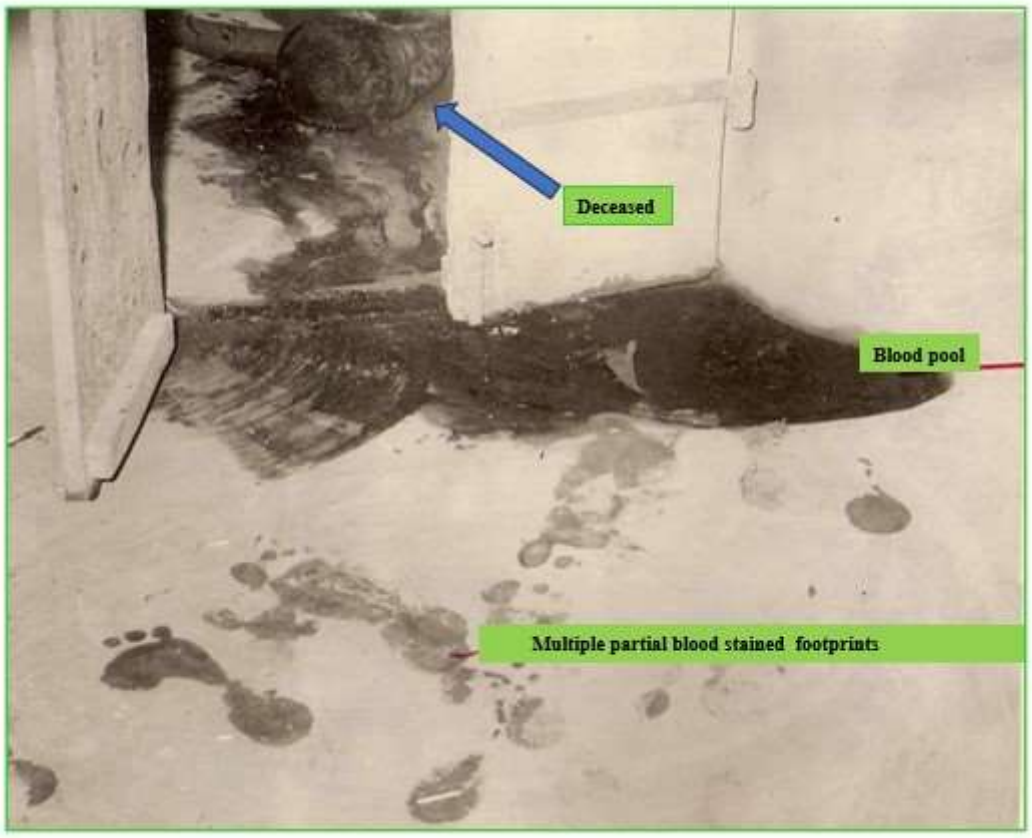

Figure 3: Partial bloodstained footprint on the floor

Then TN prepared a crime scene report and submitted to the Inspector of Police, with a copy to the District Superintendent of Police. Later, the Police Inspector informed that one of the suspects (X), whose footprint found tallied, confessed his act of homicide because of their personal enmity. He was then arrested and remanded in jail. Later TN was requested to attend the session court during the trial and present his testimony. Accordingly, TN gave his testimony before the Honourable Judge, who appreciated the way of fixing the accused through forensic means.

DISCUSSION

Identifying a person who committed the crime by the witness was integral to some earlier forensic cases. Police and prosecutors have long relied on eyewitnesses to crimes to determine criminals, and their testimony has a unique and powerful influence on juries and judges during criminal trials. Such identifications are considered direct evidence rather than circumstantial evidence. There are instances in which the witness incorrectly

identifies someone other than the perpetrator in a lineup (false identification) [12]. Science and law have long intertwined roots as disciplines commonly devoted to rational choice. Recently our courts rely heavily upon scientific knowledge to make informed decisions about disputes such as ownership, causality, and suspect or offender. Footprint is one of the most valuable, misunderstood and underutilized forms of physical evidence. As a forensic practitioner, many mysterious crimes have been solved scientifically only through footprints in cases like house burglaries, homicides, suspicious deaths, firearm cases and so on [13]. In a homicide investigation, feeble bloody footprints found at the crime scene were the only physical evidence which turned the complainant into the accused [11]. Also the bahavior of a person/persons during the crime operation is reflected in the form of foot impressions and gait pattern that provide additional information to the crime scene investigators[11,14]. Many academicians are now showing interest in footprint research and have been publishing their findings in journals and conference proceedings [15-19].

CONCLUSION

Footprints provide more information to the investigators than fingerprints. Footprints can show individual characteristics for personal identification. A person cannot commit a crime without performing some activity at the crime scene. A good investigator is knowledgeable, patient, persistent and reads a lot about various subjects regardless of title, pay or rank. Thus, the present case report is an evidence to solve the mystery through partial bloodstained footprints at a homicide scene and was also accepted in the court of law.

ACKNOWLEDGEMENT

The author Professor Nataraja Moorthy is thankful to Forensic Sciences Department and Police Department Tamilnadu, India, who provided an opportunity to investigate this homicide crime scene. Thanks are due to the Management and Science University, Malaysia for the encouragement in research and journal publications.

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