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## Case Report

### Role of Forensic Expert in Crime Scene Investigation - Indian Scenario

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#### Abstract

The Forensic Expert should visit the death scene before the autopsy if it is feasible at least in complicated cases. Especially when one fails to come to a logical conclusion by perusing the documents like sketches, photographs etc. which crime scene investigation team has prepared. Many intriguing medico legal deaths may be resolved amicably by death scene investigation. A visit by Forensic Expert the scene of crime helps in seeing the body in the context of its surroundings. One can pick up relevant trace evidences to arrive at time since death, aid investigating officer to trace the accused. Autopsy surgeon can correlate & interpret findings during autopsy. The scene visit aids Forensic Expert to link injuries on body with the causative weapon and to rule out artifacts. The Investigating officer being non-medical personnel might have unduly emphasized on some changes in the body. The Autopsy surgeon's visit clears all the doubts and enables to arrive at cause of death, time since death, etc.

**Key Words:** Crime Scene, Death scene, Crime scene investigation, Forensic Expert,

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#### Introduction:

Death investigation is a complicated process, which involves a number of different members of the police department as well as other Forensic disciplines working together towards the goal of solving the case. The principles of establishing, managing and investigating a crime scene is to secure, identify and preserve evidence that may have value in a subsequent court setting.<sup>1</sup>In homicide, suspected homicide, and other suspicious or obscure cases, the Forensic Expert should visit the scene of occurrence before body is removed. The role of an experienced expert at the scene of death is generally to assess the environment, the local circumstances, body position, soil, climatic condition and the condition of the body to

arrive at manner of death, etc.

This is a most useful and cost effective function.<sup>2</sup> A fair investigation should include in addition to interrogation of concerned people details about identification, collection of various evidences and interconnecting them before presentation in the court of law.<sup>3,4</sup> Scene visit may be of great help for proper investigation of the case. Relevant history & facts of the case help in proper interpretation by a doctor.<sup>5</sup> Scene of crime visit by Forensic Expert minimizes misinterpretation of facts due to introduction of artifacts due to passage of time.<sup>6</sup> Visit rules out whether death is the result of thermal injuries, smoke inhalation, or combination of these at the scene of fire.<sup>7</sup> Proper understanding of all aspects of death requires thorough examination of the following.

- Inspection of the body and crime scene
- Picking trace evidences
- Scene & body sketches, photograph & videography

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- Shifting of body in body bag
- Detailed examination of the body in mortuary
- Chemical analysis & or HPE, etc. depending on requirement

Routinely the autopsy surgeon has to rely upon information furnished by police officers. Team approach of crime investigation and crime scene investigation is primitive and almost non-existent in India. Ten most common errors in death investigation are noted by VJ Geberth<sup>8</sup>.

1. Improper response to the scene by police.
2. Failure to cordon off and protect scene.
3. Not handling suspicious deaths as homicides.
4. Responding with a preconceived notion.
5. Failure to take sufficient photographs.
6. Failure to manage the crime scene process.
7. Failure to evaluate victimology.
8. Failure to conduct an efficient canvass.
9. No team approach.
10. Command interference or inappropriate action.

The answer to what can we do to prevent these errors is constant training, training and more training with refresher training courses for those already in. The problem cannot be resolved by training of IPS officers abroad. The training of all cadre police officers starting from constables who visit scene first and guard scene is very essential in Indian scenario.

“Preconceived notions are the locks on the door to wisdom”. Mary Browne

Failure to conduct victimology as regards to ascertain motives and intent is one of the mistakes in investigations.<sup>9</sup> A preconceived notion ruins the case and may progress in wrong direction. This was proved in sad demise of high profile officer in March 2015 in Karnataka, India and also exposed how primitive is crime scene investigation.

In India in accordance with Sec 174 and 176 of CrPC Police officer in charge of station or magistrate visits the scene of crime and conducts

inquiry. Magistrate invariably being Taluka Executive Magistrate with no inquisitive mind & investigating skill relies on police and merely signs the inquest report. It is superior to police inquest only on paper. It is unfortunate that Medical Examiner's System is not in vogue even with availability of plenty of doctors & Forensic experts. The crude age old practice of examining the body only in the mortuary continues. Ideally role of Autopsy surgeon starts at crime scene and ends after meticulous autopsy. Doctor should focus on the physical condition of the body, information regarding injuries, trace evidence, identification and estimation of time of death at the scene. However in India in some rare occasions the autopsy surgeon's request for visit to scene of crime is honoured by Investigating Officer (IO) but after the autopsy! A case has been highlighted where crime scene visit helped to solve the cases.

### Case Report:

On 24/01/2013, body of 73 years old male brought for autopsy by Kadugodi Police Station, UDR No 05/2011, U/S 174 (c) CrPC with alleged h/o a bed ridden deceased suffering from multiple system illnesses. Found dead in room. There was an incident of electrical short circuit in the room as per police information.

### External Findings:

Length of body is 5'8". Poorly built and nourished. Dark brown in complexion. Body was stiff due to preservation in cold storage.

Externally signs of medical & surgical interventions received for the treatment of illness present. No demonstrable external fresh injuries present. Black soot smeared over the body at places. Partially molten unidentifiable foreign bodies noticed over body here & there. (Fig.1 & 2)

Rigor mortis present all over the body. Livor mortis was cherry red color.

**Internally** signs of asphyxia with evidence of preexisting chronic atherosclerotic cardiac disease, chronic obstructive pulmonary disorder

and chronic kidney disease present. Black soot particles were present in the airways up to bronchioles. Generalized pinkish red discoloration of blood & tissues noted. Blood was preserved and sent for chemical analysis. Suspicious history & findings on body necessitated scene occurrence visit to analyze and correlate the findings. The scene revealed tell-tale evidence of short circuit confirmed by Electricity board authorities. The soot was due to incomplete combustion of various materials in the room. Molten tiny foreign bodies were molten copper wiring.

**Chemical analysis report** from FSL Madiwala Bangalore No- FSL/TS/263/2013 Color test & UV – visible spectrophotometric methods have responded for presence of carbon monoxide. Percentage saturation of Carboxyhaemoglobin (COHb) is 19.33%.



**Fig. 1: Molten foreign bodies**



**Fig.2: Black soot over face & neck**

Usually the fatal level of CoHb is > 40%.

But in persons with ill health, extreme age with physiological weakening of functioning of organs death may occur with a much lower percentage of COHb.

The deceased was elderly man suffering from multiple system illnesses gravely jeopardizing

physiological functions of various organs.

On perusal of PM examination report, visit to the scene of crime and FSL report, opinion as to the cause of death was due to respiratory failure as a result of carbon monoxide poisoning.

### Discussion:

Usually the fatal level of Co Hb is > 40% is fatal. But in persons with ill health, death may occur with a much lower percentage of CO in haemoglobin. The deceased was suffering from chronic obstructive pulmonary disorder resulting in defective lung function. The extreme age with cardiac disorders have synergistic effect leading to death with low concentration of carboxyhaemoglobin. Keith Simpson et al, have shown that in the elderly and unfit persons, death may occur with a low saturation. Soot particles in air ways is an evidence of his survival at the time of accident (Ante mortem). The smoke might have contributed & hastened death of the person with lung disorder.

### Conclusion:

The case reported amply explains the importance of crime scene team visit. The to& fro transportation to crime scene must be arranged by police. Police investigators & photographs are no substitute for Medical Expert's crime scene visit. A visit minimizes introduction of artifacts and thus misinterpretation. The absence of uniform medico-legal work guideline has worsened the crime scene investigation in India.<sup>10</sup> Any manual prepared and released by registered Forensic medicine association must have assent by Central & State Government. It should be made mandatory throughout India and a legal binding to all doctors. The experts must work in tandem and in coordination so as to pick relevant piece of evidence. The photographs, video graph and sketches must be critically analyzed by the team. What mind knows eyes shall detect. But camera lens detects all that is in its field. The need of the hour is training of police and all experts of team comprising crime scene investigation as regards to scientific approach to

crime scene investigation.<sup>11</sup>The scene visit must be made mandatory by stringent Law in all suspicious deaths.

**Crime Scene Investigation Kit for doctors:** A standard kit comprises: <sup>12</sup>

Water proof Apron, Rubber gloves  
Thermometer, syringes and needles, sterile swabs  
Measuring tape & steel tape roll  
Hand lens, Digital camera  
Clean containers (glass & plastic)  
Polythene & paper envelops  
Glass slides, Notebook, pen, markers, pencils  
Glass vials (EDTA & oxalate) for blood and body fluids  
Formalin jars for histological samples  
Printed body charts to recording external injuries

**Dos & Don'ts at Scene of Crime:**<sup>13, 14</sup>

- Do not touch or alter anything until the same has been identified, documented & photographed.
- Doctor first to check for sign of life & thereby be certain about death. Resuscitate person and arrange for an ambulance.
- If the death is so imminent, dying declaration must be recorded.
- Must enquire about brief history about incidence, original position, prior manipulations, condition of clothing & surroundings
- Make a sketch of position & condition of body in relation to surroundings and depict injuries in assault cases, ligature material, knot, suspension point in hanging/strangulation cases etc.
- Note points of identification in unidentified bodies.
- Description of scene, clothing & signs of struggle, stains, hairs or foreign objects found.
- Never make any sensational statement to press, media. May result in irreversible damage to the case.

**Disadvantages of not visiting the Scene of Crime:** <sup>15,16</sup>

- Fresh injuries, artifacts added during transit to mortuary
- Injuries may be altered due to onset of decomposition
- Rigor mortis may get broken down during transit
- Cloths get disarranged, fresh tears & blood stains introduced.

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I hereby declare that we don't have any conflict of interest in any manner in carrying out this study, outcome of this study and its publication.

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Inauguration of Pre conference CME of **23<sup>rd</sup> annual Conference of KAMLS "FORENSICON 2015"** with the theme "LEARNING FROM MISTAKES" by Shri N.C Srinivas, Principal District & Session Judge Ramanagara as chief guest, with Dr. T.S Shiva Shankar, Rtd. HOD, KIMS,Hubbali as presiding officer on **3<sup>rd</sup> December 2015 at RajaRajeswari Medical College and Hospital, Bengaluru.**



The conference of **was inaugurated** by Hon'ble Shri Justice A.V Chandrashekar, Judge High court Karnataka, Administrative Judge for Ramanagara District and by Dr.L.ThirunavukkarasuRtd. Prof & HOD, BMRCI, Bengaluru on **4<sup>th</sup> December 2015**. The Journal of Karnataka Medico Legal Society (JKAMLS) Vol 24(2) of 2015 Was released during the inauguration.