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Bone in Tree – A Case Study

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Abstract

The unidentified, decomposed dead bodies and skeletal remains are very often reported for investigation by the police. Data from National Crime Records Bureau (NCRB), MHA, Government of India, reveals that 222,446 bodies were passed off as 'unidentified' by the police in the past six years from 2011. This boils down to 102 dying unidentified everyday in India. The medico-legal and forensic examinations are very much helpful with available technologies to identify the victim and establish the crime. But detection of skeletal remains in tree is rarely reported. This is apparently possible only when suicide/homicide hanging body from tree remains unnoticed for a long time in an isolated place. In one case, the police got report about the presence of some human like skeletal remains under a tree located inside bushy area commonly inaccessible place. The police and forensic team visited the spot and found skull along with other bones was lying under a tree. On further search, a long bone and a torn pant (wearing apparel) were detected still hanging in the tree. Also a small piece of rope being tied with one of its end in one of the branches of the same tree was noticed. The skeletal remains belonging to unknown victim is believed to be male because of male type wearing apparel was found in the tree. Further, a pair of slipper found near the foot of the tree supported the general practice of removing before climbing on bare foot. Collection of forensic evidence from the surrounding crime spot, cell phone recovered from the pocket of the hanging pant in the tree and medico-legal evidence helped the investigation and the reconstruction of the crime. The details have been discussed in this paper.

Keywords: Bone in Tree; Skeletal Remains; Cell Phone; Forensic Evidence; Medico-Legal Evidence; Reconstruction

Introduction

It is very often reported that criminal after committing murder adopt different methods to destroy the body or conceal in shallow grave, forest to suppress evidence and escape detection. Sometimes such concealed body is detected after weeks, months and even years without outer covering like skin, tissue and also vital organs in the skeletal frame. The degree of decomposition of the body in such condition depends on climate, surrounding environment and existence of forensic fauna (insect/feeding animal). In most of the organized crimes like murder, rape-cum-murder, infant murder, kidnap and murder etc. the victim is found on crime spot and sometimes untraceable for investigation by the police. Such crime incident is curious and challenging to the investigator since various modus operandi being used by the criminals to destroy the evidence [1]. The detection and recovery of different parts of human bones after decomposition are very interesting for forensic investigation. As per literature, the success of investigation and detection of skeletal remains depend on type of bones and percentage of skeletal remains detected [2]. It is observed that very often the criminal after committing murder conceal/or destroy the victim to escape detection and also delay the process of investigation. The various methods adopted by the criminal to destroy the victim after committing crime are [2-5]:

- Burn the dead body with inflammable oil/material
- Bury under soil stuffing inside gunny/polythene bag
- Conceal under water inside pond/well with heavy object to avoid floating
- Mummify the body to avoid decomposition and foul smell
- Stuff inside drum containing acid to destroy the soft tissue and bone
- Conceal under concrete cemented floor inside the house
- Throw inside deep jungle to destroy by wild animals
- Conceal inside septic tank (toilet)
- Place on railway track to run over by moving train to mutilate the body beyond recognition
- Bury inside graveyard
- Dismember and mutilate the dead body to conceal/dispose it away without being noticed

The detection of human skeletal remains in such condition creates curiosity in the minds of the investigator and public to know the information like (i) Whether the bones are of human being? (ii) How did they come there? (iii) Whether the skeletal remains belong to one person or more? (iv) If so, sex, age and height of the deceased? (v) What is the time since death? (vi) What is the cause of death? (vii) Whether death is suicide/homicide? So on and so forth [6].

Case Report

There were some residential quarters in the elevated land area being occupied by government employee. The surrounding was bushy having some trees and commonly inaccessible to the area. One day, a person could notice some skeletal remains lying on the ground under a tree and reported to the police. On having the information, the police and forensic team visited the spot. The spot was almost undisturbed and as per statement of the informer, skull and some bones were found lying under the tree at one place on the ground. On further search, a pair of plastic slipper was kept near the foot of the tree, apparently kept before climbing in bare foot. On further search, a long bone, a torn pant (wearing apparel) and a portion of rope being tied with one of its end in a branch of the tree were also noticed. All the items were brought down for further examination to derive the information contained in them. In course of examination, one cell phone was also found kept inside the pocket of the damaged pant. All the physical evidence was collected for further investigation in this case.

Observation

The photographs of scene of crime and other evidence are shown in Figures 1,2,3,4,5,6 and 7.

Figure 1: A Long Bone Found Hanging from the Branch of a Tree

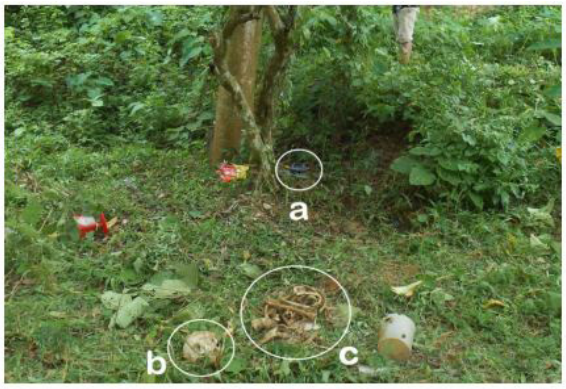

Figure 2: A Pair of Slipper **(a)** One Skull **(b)** And Other Bones **(c)** Lying on the Ground under the Tree

Figure 3: Frontal View of the Skull

Figure 4: Skull Showing Palate and Dental Structure

Figure 5: Reconstruction of the Skeletal Structure with Available Bones

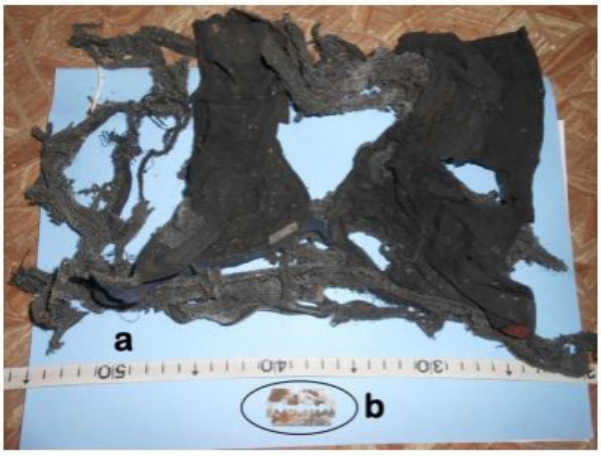

Figure 6: One Black Color Damaged Pant (a) Found Hanging in One Branch of the Same Tree and One Shaving Blade (b) Recovered From Inside One Pocket of the Hanging Pant

Figure 7: Cell Phone Found Inside One Pocket of the Hanging Pant Showing Dual Sim Cards (a, b) and Memory Card (c)

Forensic evidence

The following physical evidence was detected at the crime scene for forensic examination:

- Skull with long/short bones appear to belong to one individual
- All the skeletal remains lying at one spot on the ground under the tree (Figure 2)
- One black color torn pant bearing a tailor's marking '28' found in a branch of the tree (Figure 6a)
- One cell phone recovered from one pocket of the black color pant (Make: Callbar; Model: C66; SIM-1: Standard Airtel; SIM-2: Micro Airtel) (Figure 7)
- One shaving blade recovered from another pocket of the same pant (Figure 6b)
- One long bone (femur, length 44.5cm) hanging on the branch of the tree being protected to fall (Figure 1)
- Few hair/and fiber pieces
- A piece of rope with one end tied in a branch without noose appearing to be old and torn (suspected to be a part of hanging material)
- One pair of sky blue color slipper was found near the foot of the tree (Figure 2a)
- Soil from the ground just below the skeletal remains was collected along with control soil for examination
- Trail of events was chronologically recorded showing photograph to establish the crime theory

Medico-legal Evidence

Medico-legal examination of the skeletal remains reveals the presence of various types of human bones like cranium, sternum, clavicle, scapula, humerus, radius, ulna, ribs, vertebrae, sacrum, hip bones, femur, tibia, patella, metatarsal, proximal phalanx and calcaneus. Brownish color cranium bears 1st, 2nd and 3rd molars on both sides and 1st premolar on right and 2nd premolar on left side being all permanent teeth. The outer and inner tables of metopic, coronal, sagittal, temporal and lambdoid sutures are not fused; basi-occiput and basi-sphenoid are fused.

In sternum, xiphoid process is missing; manubrium is found separately and is not fused with the body. Medial end of the right clavicle is not fused with the shaft and the lateral end is found eroded. Inner aspects of both the scapulae are found eroded. Humerus, radius and ulna of both the sides measure 32.5, 25 and 26cm each respectively. In all these, the epiphyseal centers are fused with the shafts. Ribs (seven), vertebrae (eleven thoracic, five lumber), sacrum are found. 1st and 2nd and 2nd and 3rd segments are not fused with each other, 3rd segment is fused with the 4th segment and 4th and 5th segments are partially fused with each other.

Hip bones of both sides are found; iliac crests are found eroded. Triradiate cartilage and ischialtuberosities are fused. Femurs of both the sides measuring 44 cm and 44.5 cm respectively, tibia of left side measuring 37 cm are found; the epiphyseal centers are fused with the shafts. Other bones like one metatarsal bone, one proximal phalanx of toe, one left calcaneus are also found. All the bones are found dry and devoid of soft tissues. No ante-mortem injuries, bony deformities or sign of any disease are found in the examined bones.

Results of medico-legal examination

- All the above mentioned bones are of human origin and belong to the same individual
- Age of the individual is above 18 year and below 25 year of age
- The bones belong to a male individual
- Height of the individual was approximately 165 to 173 cm
- Time since death is more than three months
- Cause of death from these bones could not be ascertained

Results of forensic examination

The cell phone was recovered from the pocket of the victim's damaged pant. It was almost rusted and appearing damaged since kept exposed to unusual condition for long time. However, with proper cleaning, the SIM card was identified and through software the cell phone number was retrieved to be issued by Airtel service provider. Subsequently to support investigation, the service provider (Airtel) supplied the copy of the consumer's enrolment form showing the photograph and other address particulars of the person (Figure 8). The photograph and address available on the form helped in a great way to lead further investigation. As per address, the parents were contacted and visited the house. On discussion, it was known about missing of their son since long time and missing report was also lodged in this regard. The statement was verified and established to be true. The photograph available in the form was also identified to be their son along with other particulars furnished in the enrolment form. Since the unknown skeletal remains were available, the allelic profiling was done earlier and to confirm the identity, allelic profiling of the suspected parents were compared and matched beyond doubt establishing the identity of the deceased to be their biological offspring.

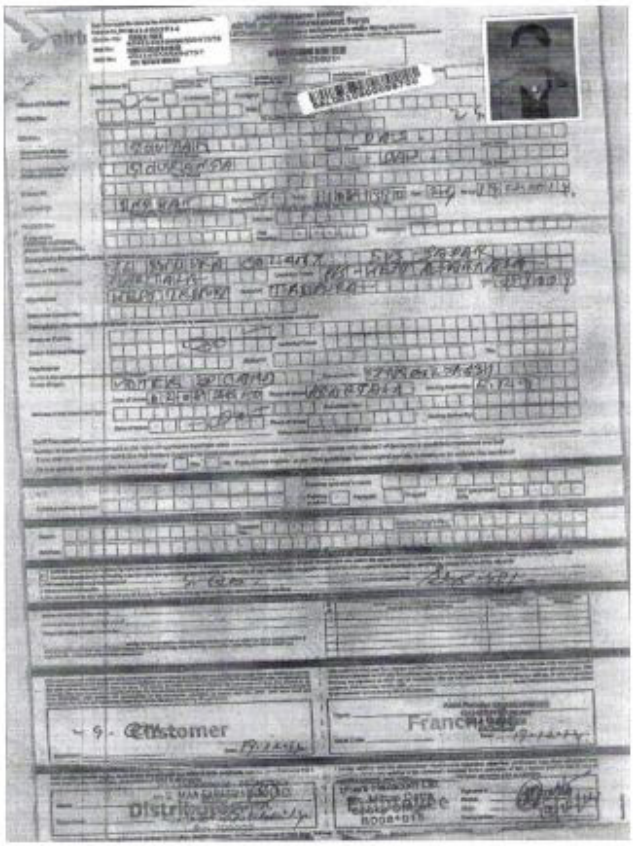

Figure 8: Copy of Victim's Enrolment Form Received from Mobile Network Service Provider

Where Forensic Analysis Stands Now

- Skeletal remains detected after more than two years since death
- Physical evidence collected from the crime spot for forensic examination
- Medico-legal examination on skeletal remains done
- A cell phone was recovered from the pocket of the damaged pant found hanging in a branch of the tree
- Cell phone examined, call record retrieved and cell phone number identified
- Name, photograph of the cell phone user and other particulars available in the enrolment form were provided by the service provider for investigation
- The parents were contacted as per address and could know about missing of their son about two years back and station diary entry made in the police station
- The record of station diary verified and confirmed from concerned police station
- The photograph available in the form was identified to be their son and other particulars are true
- DNA profiling done from skeletal remains and kept for establishing identity
- DNA profile of the skeletal remains matched with the profiles of the suspected parents establishing their offspring
- The identity of the skeleton was established beyond doubt
- Death suspected to be suicidal hanging on the basis of reconstruction of trail of events/and physical evidence

Reconstruction of crime based on circumstantial evidence

The crime was reconstructed based on trail of events observed at undisturbed crime scene. The victim in this case, possibly climbed on the tree leaving his slipper at foot of the tree, carrying hanging material (rope). He (victim) further took care to hide himself inside branches to avoid public notice and committed suicide by hanging. The hanging body remained unnoticed for a long time, decomposed gradually resulting detachment of different body parts and falling on the ground. In the process, a long bone (femur) and the pant (wearing apparel of the victim) could not fall being protected by the branches of the tree, but other bones found lying at one place under the tree. Further, the detached part of the rope (hanging material) found tied one end with the branch without noose was also present suggesting detachment of body with noose during long period of hanging. This is due to gradual deterioration of strength of the rope to bear the weight of the decomposed body resulting detachment of body parts and lying under the tree (Figure 9).

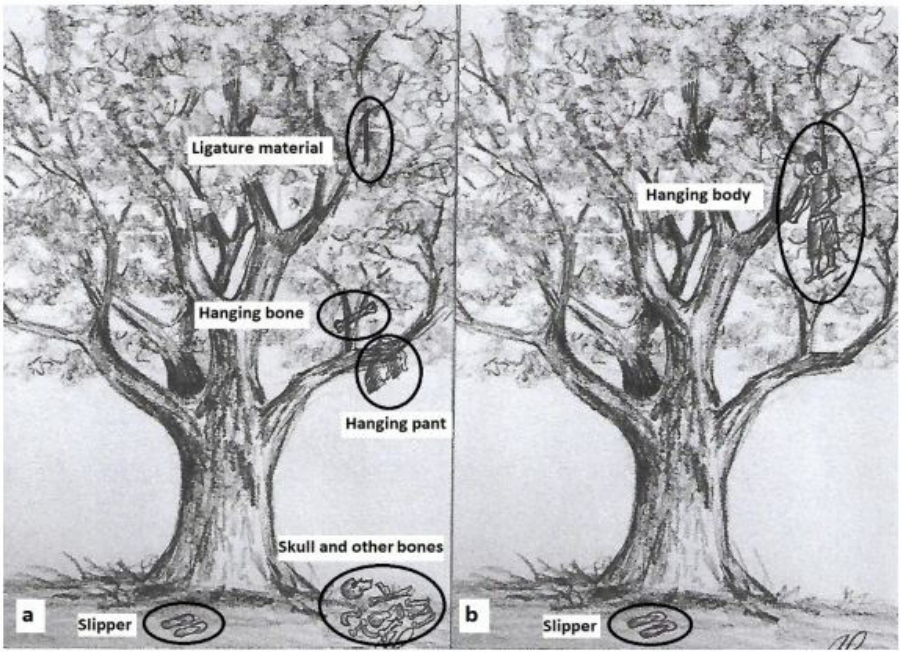

Figure 9: Post Findings at Undisturbed Crime Spot (a); (b) Reconstruction of the Crime Based on Physical Evidence and Statement of Victim's Parents

Discussion

The suicidal hanging either indoor or outdoor is commonly reported from ceiling fan/beam and tree since easy for the victims as per literature [7]. In such cases, hanging is detected by family members or locals without much delay after the incident for forensic and medico-legal investigation. But in this case, the victim preferred suicidal hanging from a tree located at an isolated and inaccessible place away from his residence to hide detection resulting decomposition due to long days hanging. This led to recovery of skeletonized remains lying under the tree and one long bone in the tree.

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