

ROLE OF FORENSIC ODONTOLOGY IN IDENTIFICATION: A CASE REPORT

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ABSTRACT

A highly decomposed body was recovered from rivulet in Haryana and was brought for postmortem examination. According to the police, the body was identified by the relatives of a boy who went missing 15 days before from bank of the same rivulet. In absence of clothes and due to advanced stage of decomposition, the family allegedly identified the body on the basis of length of second toe which was greater than first one.

However on autopsy, the length of the body, osteological study as well as odontologic study of the body resulted in the outcome that the body did not belong to the said family. The old healed spaces of missing molars in both the jaws became the surest point for this negative identification. Such negative identification cases do occur when the body is in a highly decomposed state and beyond recognition. Forensic odontology plays an important role to find the identity of the person especially if the dental record of the person is available.

Key Words: Teeth, Identification, Negative identification, DNA analysis

INTRODUCTION:

Identity theft, criminal investigations of the dead or missing, mass disasters both by natural causes and by criminal intent . with this as our day to day reality, the establishment and verification of human

identity has never been more important or more prominent in our society. While DNA and fingerprints are clearly the favored methods of identification,^{1,2} they require a prior record and verifiable baseline for comparison. When these tools cannot be used it is necessary to employ those

biological factors with higher variation and lower diagnostic probability. This reference introduces a number of different specialties such as, foot- and ear printing, dental interventions, skeletal anomalies, tattoos, facial reconstruction, personal effects, and handwriting. While recognizing that no single factor is an absolute indicator of identity, the contributors explain how a multitude of factors taken into summative consideration can establish a probability for confirmation³.

CASE REPORT

Inquest papers were received in the department for conduction of post-mortem on highly decomposed body. Case of murder was registered against three boys and thus board was constituted to do the autopsy. This case was of 21 years old boy who went along with his three friends for picnic without asking their parents. As per the history provided by the investigating officer, these boys went to some place in Haryana alongside the rivulet and were having alcohol when the deceased lost his balance and fell into the rivulet. Rest of three tried to save him but could not succeed. Fearing from their parents, they went back but did not disclose about the incident.

Parents of the deceased filed missing report next day and on investigation police

zeroed on to the three boys who disclosed whole of the incidence. Parents on getting this news started looking for the body and they visited all the Barriers made over that rivulet. After about 2 weeks, parents came to know that one dead body has been fished out about 10 Km away from the alleged incident. They went and identified the body and the body was brought for the post-mortem examination. As body was highly decomposed and no clothes were present on it, parents identified the body from the stature and from the second toe of the feet which as per them was quite longer than rest of the toes.

Autopsy Finding:

Dead body of well built male wrapped in plastic sheet. Body was wet having twigs and straw at places. Body was in advance stage of decomposition with face was not recognisable (**Figure 1**). No clothes were present. No tattoo or birth mark was present. Second big toe was longer than rest of toes as alleged by the parents (**Figure 2**). Decomposition changes were corresponding to about 2 weeks of death.

During the autopsy, while examining of oral cavity, it was seen that second molar of left lower side were missing and socket was also showing old healing (**Figure 3**). Just to correlate, parents were called and history regarding any old extraction was

taken. His parents refused any such extraction. Thus, they claimed that they had only identified because of second toe which as per the literature is not a uncommon thing to be seen in the different individuals.

Figure 1



Figure 2



Figure 3



Thus inquest papers were changed and autopsy was performed as unknown case and sample for DNA was kept and sent for matching with those who have earlier identified him as their son. DNA Fingerprinting Report also proved that the person whose dead body was recovered was not their son. Thus, dental examination led to negative identification.

DISCUSSION:

Forensic dentistry or forensic odontology is the application of dental knowledge to those criminal and civil laws that are enforced by police agencies in a criminal justice system. Forensic dentists are involved in assisting investigative agencies to identify recovered human remains in addition to the identification of whole or fragmented bodies; forensic dentists may also be asked to assist in determining age, race, occupation, previous dental history and socioeconomic status of unidentified human beings.⁴

Tooth enamel (the outer layer of teeth) is harder than any other substance in the human body, which is why teeth remain long after all other parts have decayed. Identifying an individual by his or her teeth without dental records is much more difficult. However, things like broken teeth, missing teeth and gold crowns might be recognized by the friends and family

members of the deceased. Things about the biter's lifestyle can be determined by the teeth; a constant pipe smoker or a bagpipe player has a distinctive wear pattern.⁵

In addition to the dental records, forensic investigators can retrieve DNA samples by extracting the pulp from the centre of the tooth. Unlike the enamel, pulp can be damaged by fire and other conditions, but it can also last for hundreds of years. Dental identification is often the last resort, and it isn't always possible -- some people simply can't be identified.⁵

CONCLUSION

Detail autopsy and examination of all the system should be part of all post-mortem examination. Sometimes even negative finding can be helpful in solving some queries of investigating officer. Due care should be taken while examining dental status as this can help in identification of person if record or history is available

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