

Exhumation: Plugging of Pitfalls

Kumar A

Department of Forensic Medicine & Toxicology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi-110 029

Abstract

Although “Exhumation” (lawful digging - out of already buried dead body), is rarity in our country; yet the CASES have attracted a lot of media attention, whenever it is done. Scientists from all streams of Forensic Sciences whether it be Anthropologist, Fingerprint Expert, Serologist, Forensic Odontologist or a Medicolegal Expert (doctor); are involved in the procedure along with other agencies like Police & Photographers.

Though the procedure is carried out in the presence of Magistrate & through legal authorization; yet few shortcomings remain due to lack of proper co-ordination amongst these personnel. Lack of team-work concept invariably leads to loss of vital clues and evidences; primarily affecting the interpretation of findings and ultimately the outcome of the case.

Some policy for carrying-out the procedure with team-work concept, is the need of the hour, which will adequately plug these pitfalls. The paper describes the procedure/protocol to be followed / adopted in such cases, incorporating latest technological advances made in the field of criminal investigation all over the globe which will help in properly maintaining the chain of evidence & thereby assisting in proper disbursement of justice.

Key Words: Forensic Science, Forensic Scientists, Exhumation, Recent Advances

Introduction

Exhumation i.e. retrieval of previously buried dead body practically speaking, is uncommon in our country, due to custom of cremation prevalent amongst Hindus which constitute the largest portion of the population. However, in other communities who practice burial of the dead body, exhumation can be done, if any controversy regarding identity, cause or manner of death arises afterwards¹.

Another situation observed in medico-legal practice is ‘buried-body’ cases, which come to attention of police either as an accidental finding or during the course of confession by a criminal or provided by an informant. Rarely the second autopsy may be required when first postmortem report is challenged by public or due to political over tones or ambiguous in nature².

In our set up, as soon as information reaches the police, they rush to the site and start their procedural formalities; although Section 176 CrPC requires authorization and presence of First Class Magistrate.

For correspondence

Dr. Adarsh Kumar

Asstt. Professor Dept. of Forensic Medicine,
AIIMS, Ansari Nagar, New Delhi - 110 029

This rushing disturbs the '*preservation of scene*' which is of paramount importance in all such cases. Doctors are usually called later and Forensic Scientists rarely, creating total lack of co-ordination among themselves which ultimately lead to loss of many vital evidences at the site/scene and during the process; the importance of those can be understood by these personnel only. Following procedure is recommended to plug these pitfalls in the existing process with incorporation of latest technological advances made in the field of science.

Recommended Procedure

Preliminary phase of any investigation is most critical and it sets the tune for whole of the investigation. Conducting site/scene search involving discovery & excavation of buried bodies requires special technique & planning. Team-work concept must be developed for better results. The doctor preferably a medicolegist along with Forensic Scientists viz. Forensic Anthropologist, Forensic Entomologist, Forensic Serologist, Forensic Botanist, Forensic Taphonomist, Forensic Geotaphonomist, Forensic Animator & other specialized personnel like Photographer, Finger print Expert; must be made the integral part of the team. This team should be involved right from the beginning of the process along with Police & Magistrate.

At the site, immediate excavation of remains must not be done, if the body has not already been removed. Entire area must be cordoned off & any access to public must be denied, which can be done by using tarpaulin screen around the site. After securing the area, the preliminary procedure should be instituted in the following manner.

A) Preliminaries

1. **Photographer** must take both black & white and coloured photographs of entire area including the site and any item of evidentiary value first.
2. The area surrounding the site should be mapped-out & a scene sketch i.e. plan view be prepared by specialized personnel like portraitist / sketcher/ **Forensic Animator** after proper scaling.
3. A systematic search of surrounding area invites special attention. If any evidence is discovered, it is to be photographed separately & included on scene sketch.
4. Fingerprints need be lifted from all possible evidences.
5. The procedure should be carried-out in daylight preferably during early morning hours and if rainy weather is a threat, the area/ site should be protected by erecting the tents.

B) Exhumation Proper

1. When the grave is identified by relatives & cemetery in-charge; the problem of locating the site does not arise. However it poses a great deal of difficulty in '*buried-body*' cases & as such may involve several acre areas to be dug out. For locating the burial site, following can be of great help^{3,4}
 - a) Circumstances of crime which may give a clue

- b) Search by foot
 - c) **Probing** - steel rod 4-5 feet long with tee handle on one end and a sharp point at other is inserted into suspected area; if ground is soft it is halted & vapour detector is brought into play.
 - d) **Vapour Detector** - detects presence of gases formed as a result of decomposition and so can detect the presence of cadaver. **Thermal Heat Intensifier** may also be used which detects presence of human tissue.
 - e) **Infrared photography** is of immense help in locating the body in open areas.
2. Clearing of the ground around burial site is of critical value for exactly locating the dimension of hole to be followed by photography.
 3. The soil should be scrapped-off in somewhat even layers about 4"-6" deep. As various evidences are located & recovered, they should be photographed. During digging-out, the soil samples warrants to be collected from near the grave, around the grave, over the grave & as different items/ evidences are recovered preferably by a **Forensic Geologist**. A handful of soil needs to be gathered from each location, dried before packaging in different containers with proper identification. The containers must be clean, dry & wide-mouthed.
 4. **Forensic Botanist & Forensic Geotaphonomist** (who deals with buried crime scene evidences) should collect the surface vegetation & roots of tree and bushes which have grown into the site & the remains.
 5. Photography of grave is of utmost importance as soon as coffin or body is visualized, prior to any disturbance, which should be identified by as much person as possible present at the site. The doctor should examine dead body inside the grave & later conduct preliminary autopsy then & there, if body has intact soft tissue. **Forensic Entomologist** should collect various insects/ larvae & other evidences at this juncture, which will help him in extending his expert opinion.
 6. The body may then be placed on a clean, white sheet for better visualization & preservation of any additional evidence, which may not be easily observable at site. The importance of collection & preservation of soil samples from around the body and underneath it, in actual contact; can not be over-emphasized. A portion of coffin & buried clothes, scalp & pubic hair & viscera, if identifiable; should also be preserved.
 7. After removing the body, the grave should again be photographed. Area under the body invites careful searching for any teeth, hyoid bone, thyroid cartilage & bullets; followed by further excavation for several inches if these are found. Use of **metal detector** at this stage will certainly yield better results.
 8. The hands of the deceased should be bagged with paper bags for preservation of any trace evidence under fingernails. The body afterwards should be transported to nearest mortuary under concerned jurisdiction for further examination & detailed autopsy.

Forensic Anthropologist & Forensic Odontologist may be involved, if body is in highly decomposed state.

Conclusion

Teamwork concept is hallmark for all the phases of investigation to yield better results. It requires an appreciation & understanding of each other's duties & responsibilities; so that all parties can benefit from one another's contribution & expertise.

Proper retrieval of physical evidence needs a very careful handling & it is this part which is lacking most. All the personnel involved must have working knowledge of handling the physical evidence. Anything & everything can be evidence, so ALWAYS PRESERVE, if not absolutely sure that it is useless. Thorough packaging & labeling of collected material & further proper storage & transmission is very crucial in maintaining '*Chain of Evidence*' which ultimately has the bearing on the outcome of the case.

In this modern era of technological spin-off, few such things may be used as an adjunct or alternative depending upon expertise exhibited & facilities available. In addition to photography, **videography** should be done as it provides a realistic & graphic portrayal of the scene, which can be reviewed later also by all concerned. However, technique of videography is crucial in determining its evidentiary value.

Another such device is '**Total Station System**', which is an electronic measuring equipment developed for taking scene measurements. It records distance, slope, horizontal & vertical angle to a given point. The system may substitute measuring tapes, sketches, diagrams etc. in future, as it saves the countless hours of manpower consumed at scene. Other advantage of it is in making 3-dimensional views & animated reconstruction, which can easily be done with the help of Auto CAD on the Computer.

The recommended protocol will definitely enhance the role of all categories of Forensic Scientists including Doctors in the process of Criminal Investigation & ultimately benefit the society by helping in proper disbursement of justice.

Acknowledgement

I am highly thankful to Prof. Krishan Vij from GMCH-32, Chandigarh who has been an inspirational force in my academic endeavors. I also owe my gratitude to Prof. T. D. Dogra from AIIMS who has always blessed & constantly guided me in various academic pursuits.

References:

1. Vij K. Exhumation. In the Textbook of Forensic Medicine & Toxicology, Elsevier Publications India, New Delhi 4th Edn ,2008;p- 37-8.
2. Dikshit PC. Crime Scene Investigation. In Textbook of Forensic Medicine & Toxicology, Peepee Publishers India, New Delhi 1st Edn ,2007; 132-8.
3. Polson CJ, Gee DJ, Knight B. Scene of Crime. In Essentials of Forensic Medicine , Pergamon Press, UK, 4th Edn , 1985;p-585-9.
4. Vanezis O, Sims B, Grant JH. Medical and scientific investigations of an exhumation in unhallowed ground. Med Sci law 1978;p-18: 209-21