Case report

AUTOPSY IN EMBALMED BODY- A RARE CASE

Dr. H. S. Tatiya, Dr. A. A. Taware, Dr. V. T. Jadhao, Dr. S. B. Punpale, Dr. A. L. Bandgar, Dr. R. C. Katariya

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Abstract:-

Embalming is the procedure of cadaver preservation. In routine practise whenever postmortem examination is indicated, embalming should never precede it. However rarely postmortem examination has to be performed on embalmed bodies. Current case report discusses one such incidence with medicolegal issues of the scenario.

Key words: - Postmortem examination, embalmed body, legal provisions.
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Embalming is the procedure of cadaver preservation. In routine practise whenever postmortem examination is indicated, embalming should never precede it. However rarely postmortem examination has to be performed on embalmed bodies. Current case report discusses one such incidence with medicolegal issues of the scenario.

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Introduction:

Embalming is the method of treating dead body by chemicals to prevent decay and preserve its pre-mortem appearance. Embalming is the treatment of the dead body with antiseptics and preservatives to prevent putrefaction. By this process tissues are fixed, organs are bleached and hardened and blood is converted into brownish mass. Embalming alters the appearance of body, tissues and organs, making it difficult to interpret any injury or disease.

Public transportation of the dead body to distant place, anticipating delay in funeral, future dissection/teaching purposes, and preservation of body form of important personalities for public viewing are some of the important indications for embalming. Embalming can be done on both autopsied and non-autopsied bodies, though the former requires a more a more specific approach in terms of body preparation.

In normal circumstances embalming should not precede autopsy as it can destroy vital medicolegal evidences.

We here discuss one such rare case in which postmortem examination was done after embalming procedure.

Case History:

A 38 years old male deceased was brought to the Department of Forensic Medicine, Sassoon General Hospitals for postmortem examination. The deceased died two days back in Singapore after falling in sea, while he was working over cruise. Cause of death given by Singapore authorities was – Death due to drowning after preliminary enquiry and without postmortem examination. Then dead body was embalmed and handed over to his relatives for funeral procedures in India. However after bringing the body back to India, relatives requested to conduct post-mortem examination on dead body. The case was registered as medico-legal case by local police authorities. Police did inquest and requested this department to perform postmortem examination to know the exact cause of death.

On external examination-
Body was stiff and condition of rigor mortis and livor mortis could not be commented. Postmortem stitched wounds were present over right side of neck and both inguinal regions as a part of embalming procedure.

On internal examination-

- All organs were hardened and strong smell of formalin was perceived. Specific opinion and comments could not be made, hence pieces of lungs, brain, liver, spleen, kidneys and whole heart was kept for histopathological examination. Histopathology revealed significant pulmonary oedema. However cause of death as drowning could not be ruled out.

**Discussion:**

Looking in the literature we could find only two cases in which postmortem examination was done after embalming of the dead body. Few questions raised in our minds as-

**Who can ask for the postmortem examination in embalmed bodies?**

In a case reported by Biplab shee et al, post-mortem was done after 16 days on the cadaver, which was donated to anatomy department. It was done after one of the relatives complained to police regarding cause of death. Special permission of Honourable high court was obtained by police officials for the same. In another case reported by Jatin Bodwal et al, 71 year old lady died due to chronic renal disease. Body was kept in cold storage for three days after embalming procedure in order to preserve the body. However body was unclaimed after three days and hence MLC was registered and postmortem was done after police inquest and requisition. In the present case the doubt in minds of relatives regarding cause of death made them to make the case as medicolegal one and made to perform postmortem examination. Thus there are no specific legal guidelines for conducting postmortem examination on embalmed bodies.

**What are the merits and demerits of performing postmortem examination on embalmed body?**

In cases reported by Jatin bodwal et al and Biplab Shee et al, causes of death were pathological and hence were preserved due to the procedure of embalming. But in present case findings of drowning could not either be made out or ruled out with confidence due to embalming. Regarding toxicological analysis it is reported that, during embalming many chemicals are introduced to the body which pose problem in differentiation of many poisons and may also lead to false positive results.

However Alunni perret and co-workers have detected heroin from bile and liver in embalmed bodies and Steinhauer has devised an useful test for detection of ketosis in such cadavers. In addition to the specific issues discussed above, if we talk in general, there is difficulty in doing autopsy on an embalmed because of fumes of the formalin make autopsy hall obnoxious. Also, there may problem in DNA fingerprinting as the tissues were stained with formalin which will denatured the protein. Only small molecular weight genomic DNA can be recovered from formalin fixed tissues. These fixed tissues cannot be utilized for DNA typing unless short sequences are amplified PCR techniques.

**What are legal provisions in such cases?**
Before performing embalming it is necessary to ascertain cause of death. If death is due to unnatural cause or if there is no proper death certificate indicating cause of death as natural, embalming should not be performed. Embalming prior to medicolegal autopsy may invite charge of destruction of evidence according to section 201 of IPC. Delhi Anatomy Act 1953 mentions that the hospital authority can utilize an unclaimed body for the purpose of conducting anatomical examination and dissection or other similar purpose. As per this act unclaimed body means a person who dies in hospital, prison or public places, which has not been claimed by any of his near relatives or personal friends within the prescribed timeline of 48 hours. After this period body can be cremated by the hospital authorities if not required for academic purpose. However when there is any doubt regarding the cause of death or when for any reason the authorized officer considers it expedient so to do, he shall forward the unclaimed body to the police officer referred to in section 174 of the Code of Criminal Procedure, 1898 (Central Act V of 1898).

In case of unclaimed dead body lying in the hospital, where death has occurred due to natural cause, the hospital authority should send telegraphic messages to the available addresses. If the dead body is unclaimed after 72 hours, it is legally authorized to dispose of the dead body. In view of the above, the dead body is declared unclaimed for the purposes of organ retrieval after 48 hours as per the Transplantation of Human Organs Act 1994 (Act No. 42 of 1994). As per the Police Manual the dead body is declared unclaimed only after 72 hours. Thus it can be said that he organ can be retrieved after 48 hours but there should not be disposal of any unclaimed body before 72 hours. When all efforts fail and it is established that no one is likely to claim the dead body, then only a body can be declared as unclaimed and organs can be retrieved as per the Human Organ Transplantation Act, 1994.

In case reported by Jatin bodwal et al, only because the body was not claimed identified a medico-legal autopsy was conducted after 19 days. The sole reason for getting autopsy done was to keep DNA samples for identification. The Delhi Anatomy Act 1953 says that, hospital authorities should inform the authorized officer without any undue delay. In this case police was informed about non claimant of her body after three days of death. Police could not trace the address the deceased. In the meantime body was kept lying in mortuary and embalming got done by the hospital authorities on ninth day. It appears that lack of knowledge and over enthusiasm of hospital administration was responsible for the embalming in that case prior to postmortem examination.

So there is need to formulate certain criteria on such cases regarding:

- Who should do inquest in such cases?
- Who can ask for such postmortem examination after embalming?
- Up to what time duration after death and embalming such cases can be referred for postmortem examination?
- Whether such cases be autopsied by panel? If yes then who all should be the members of the panel?
- What additional documents should be seen prior to postmortem examination?
- What procedure should be followed if cause of death is already issued?
- Whether samples should be preserved for chemical analysis/ DNA analysis? If yes then which samples and under what preservatives?
Conclusion:-

There is need to formulate guidelines in such cases. Though the postmortem examination in embalmed body is a rare phenomenon a medicolegal expert must be well worse with this situation. Hence care must be taken in all cases to avoid embalming prior to postmortem examination.

References:-

10. The Delhi Anatomy Act, 1953.
11. The Karnataka Anatomy Act, 1957 (Section 4).