

Returning Stored Samples Post-Autopsy to the Bereaved Family: Is It Appropriate?

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Abstract

Currently, many departments receive requests from bereaved families for the return of their loved one's stored samples after medico-legal autopsies, and most of the departments have returned these samples upon such requests. I have had the experience of fulfilling the request of a bereaved wife who wanted the return of all her late husband's stored samples, which were in possession of a forensic medicine department, after the medico-legal autopsy was completed. This article considers the professional liability of a forensic medicine department when handling stored samples during autopsy, based on my personal experience and reviews the current state of research institute in determining ways to appropriately communicate with families and to properly handle human samples.

Forensic samples have high value for the advancement of new inspection and diagnostic abilities, as well as for the identification of the cause of death and pathological diagnosis, if a similar case occurs in the future. These human samples should be considered shared human assets to be used for the benefit of all.

If the bereaved family requests the return of stored samples in the possession of forensic medicine departments, they must sufficiently understand the benefits and risks associated with such return. I think that this is a case-by-case matter that depends on the strength of the bereaved family's request and the nature of the stored samples that they wish to be returned.

Keywords: Stored Samples; Autopsy; Forensic Medicine; Bereaved Family; Professional Liability

List of abbreviations: NAME: National Association of Medical Examiners

Introduction

In Japan, medico-legal autopsies are typically performed in university forensic medicine departments as part of criminal investigation, as per the Code of Criminal Procedure (number 131 of 1948). Under this code, forensic pathologists may retain dead-body samples (organs, blood, and urine) for autopsy and investigation of death following a request from the prosecutor and approval of the court. This code is strictly enforced, and the retention of the samples does not require the consent of the bereaved families [1,2].

Retained samples are considered evidence in criminal investigations and are stored in the departments for long periods after the autopsy's completion because legal cases may require a re-evaluation of the evidence in the future. The human samples kept by forensic medicine departments are beyond the criminal jurisdiction of the prosecution service after a medico-legal autopsy is completed, and the criminal investigation is continued.

Recently, I conducted a national survey of the types of requests that forensic medicine departments receive from bereaved families regarding stored samples and how they respond to these requests [1,3]. This survey has revealed that many departments receive requests from bereaved families for the return of their loved one's stored samples after medico-legal autopsies, and most of the departments have returned these samples upon such requests.

I have had the experience of fulfilling the request of a bereaved wife who wanted the return of all her late husband's stored samples, which were in the possession of a forensic medicine department, after the medico-legal autopsy was completed. Nearly one year has passed since these samples were returned, and I still question the appropriateness of the forensic medicine department's

response of returning the dead-body samples as per the wife's request. Therefore, forensic medicine departments must discuss how they should implement the process of returning dead-body samples to bereaved families. This article aimed at considering the professional liability of the forensic medicine department when handling stored samples during medico-legal autopsies. This discussion is based on my personal experience.

Case

The cadaver is that of a 42-year-old man. Ten days before his death, he underwent angioplasty for acute myocardial infarction of a coronary artery. A part of the wire might have possibly remained in the coronary artery intraoperatively. However, its existence in the coronary artery was not detected during the medico-legal autopsy. Many foci of old myocardial infarction were observed in the heart, and severe stenosis of the coronary arteries due to atherosclerosis was observed. The cause of the death was thought to be sudden cardiac arrest due to the ischemic arrhythmia. The surgical procedure, angioplasty of the coronary artery, was thought not to be related to the death.

In my situation, in which the return was requested by the bereaved wife, a medico-legal autopsy was conducted because of suspected medical malpractice by a physician. Consequently, the court found that the cause of death was acute myocardial infarction, and medical negligence was not proven. Thus, the accused physician was not held criminally liable. In response to the bereaved family's request to return the stored samples, the disadvantages and risks of removing the stored samples from the department were explained as follows. If the stored samples were returned in compliance with the bereaved family's request, and the bereaved family wanted a criminal reinvestigation at some point in the future, this would not be possible because the stored samples had been removed from the department. Furthermore, should the bereaved family seek to hold the physician responsible in the civil court to pursue financial compensation, the proof that the stored samples could provide would be unavailable. However, the bereaved in this case accepted these risks, and the conversation shifted to how the stored samples would be returned.

Discussions

There have been cases wherein bereaved families have filed lawsuits when they have discovered that human-body samples of their deceased relative had been collected at the time of autopsy, stored, and/or used for medical research [4-6]. In the United Kingdom, the Alder Hey scandal and the Isaacs case stimulated the need to properly handle human samples [7,8].

As a result of these scandals, research institutes have discussed ways to appropriately communicate with families and properly handle human samples [9]. Some countries have created rules for the use of samples from cadavers. In the United States, the use of existing samples in research has been legally accepted if the samples are anonymous (45 CFR 46.101(b) (4)). The College of American Pathologists quotes from this policy; however, the National Association of Medical Examiners states that the use of such samples in research "specifically requires the consent of the next of kin" [10,11]. In the United States, the Department of Health and Human Services solicited opinions for the revised version of its Common Rule, which was released in 2011. One major point of debate was how consent should be obtained for the use of stored samples. The revised version may affect how samples collected from cadavers are used [12]. In the United Kingdom, the Human Tissue Act 2004 stipulates that the secondary use of samples derived from cadavers requires informing the bereaved family members [13].

These discussions led to the introduction of the 2005 Coroners (Amendment) Rules and other guidelines, which outlined the requirements for research institutes during autopsy [14,15]. In addition, it was stipulated that institutes must inform families when the organs/tissues of the deceased are retained to investigate the cause of death. Coroners were required to confirm the families' desires regarding the restoration of organs and/or tissues or the donation for educational research [16,17]. Particularly, because researchers also had to obtain consent from the families before using stored samples for medical education and research, coroners were additionally required to obtain appropriate consent according to autopsy protocol.

Based on a position paper compiled by the National Association of Medical Examiners (NAME) in the United States, public interest is prioritized over private interests of the bereaved, and they cannot be returned to the bereaved families when stored samples are collected for use as evidence in forensic investigations [11]. In Japan, there are no definitive rules regarding the handling of stored samples imposed on forensic medicine departments by the Japanese Society of Legal Medicine, and the deceased's stored samples are believed to belong to the bereaved family. This has resulted in the general notion that stored samples (even forensic samples) should be returned if the bereaved family requests for its return.

Currently, forensic medicine departments, which keep the stored samples, have no definite systems to promptly investigate the required information (i.e., information regarding the progress of the investigation and whether the criminal trial has been concluded) to determine the appropriateness of a request from the bereaved family for the return of the stored samples. Therefore, if a bereaved family subsequently requests the return of stored samples kept by the department, consulting the criminal investigating agency's prosecutor who has requested the autopsy is necessary to ascertain the completion of the criminal investigation and possibility of a retrial. Thus, requests can be completely denied on an individual basis.

When responding to a bereaved family member's request to return samples, the "forensic value" that the stored sample holds must be considered. We must also consider the importance of research using human samples in advancing forensic medicine. For

instance, I had such an experience in a forensic medicine department when conducting a medico-legal autopsy on a person who died due to sarin exposure, a rare nerve gas, during the Tokyo subway terrorist attack. The retained samples harvested from the organs and blood were used for medical research, advancement of new inspection methods, and new diagnostic tests to determine the cause of death of the deceased [18]. These forensic samples were of high value for the advancement of new inspection and diagnostic abilities, as well as for identifying the cause of death and pathological diagnosis, if a similar case of death by sarin nerve gas occurs in the future. This approach considers human samples as shared human assets to be used for the benefit of all. I also think that stored samples must be managed appropriately by forensic medicine departments in the future.

While conducting medical research and education, forensic medicine departments also bear the responsibility of conducting medico-legal autopsies from a fair and neutral perspective under state authority. However, how much responsibility specifically does the department have regarding the stored samples collected during a medico-legal autopsy when dealing with a bereaved family?

The responsibilities associated with the stored samples include conducting medico-legal autopsies as part of a criminal investigation and collecting stored samples for the purpose of investigation or for later reinvestigation. The stored samples must be appropriately managed based on the management standards of the time so that they can withstand future criminal reinvestigation.

We must discuss the responsibility of the forensic medicine department to the bereaved family. Currently, the police officers are responsible in providing the explanation of medico-legal autopsy to the bereaved family because it requires fairness and neutrality. Therefore, forensic pathologists are prohibited to interact with the bereaved families. However, I believe that forensic medicine departments (rather than the police) should actively and sufficiently provide explanations to the bereaved family and to obtain their consent for the stored samples to be collected and preserved during the medico-legal autopsy for criminal appraisal and future reinvestigation.

In agreement with the position statement from the NAME, I believe that public interest should be prioritized over private interests regarding the samples stored at forensic institutions [11]. However, returning stored samples is an option if the bereaved family can accept the disadvantages of sacrificing the public interest by prioritizing their private interest (i.e., through ritual burial by the bereaved and condolences to the deceased), and the prosecutor could allow the return of stored samples in such instances.

In addition to fulfilling its responsibility as a professional institution that stores difficult-to-manage dead-body samples, if the bereaved family seeks the return of the samples, forensic medicine departments must explain that such return will remove any benefits of legal protection in the form of future public interest that the bereaved families could gain by leaving the stored samples in the department's possession (i.e., as evidence in criminal reinvestigations or civil trials). This stripping of legal protection could incur future disadvantages and risks to the bereaved families. The bereaved family should be allowed to decide after the department explains these points. I also propose that it is the forensic institution's responsibility as a specialist to clearly explain and obtain sufficient consent from the bereaved family regarding the negative effects of stored samples on environmental health. This consent should consider the difficulty in managing stored samples, that the general public is not legally recommended to handle them, and that the family must conduct the final disposal. However, once these points are explained, I believe that the samples can be returned if the private benefits the bereaved family will gain from the return of the stored samples are greater than the benefits of public interest, as considered by the forensic medicine department.

The limitations of this analysis are first, practical implications could be limited to countries with a similar legal system to Japan. However, there is currently no system in Japan to investigate the information required to determine whether the stored samples can be released. Such system seems to be beneficial - and reporting of the development of such a system would be of interest from other countries.

Second, whether the case study I described is representative of the majority of the requests for sample return is unclear. However, many forensic researchers have experienced conflicts regarding requests from bereaved families for the return of stored samples. Therefore, forensic researchers may benefit from my experience, which can serve as a precedent for the appropriate way of returning samples to the bereaved. Although the materials retained may have no emotional value to the forensic pathologist, we should be mindful that they may have great significance to the relative of the deceased. What is muscle and paraffin to us may be seen as the heart by the relative. Greater consideration of the rights of the individual is needed.

Conclusions

Based on my personal experience, whether returning stored samples as per the bereaved family's request is a case-to-case matter that depends on the strength of the bereaved family's request and the nature of the stored samples that they wish to be returned.

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