

Highlighting the Darkness - Exploring the Causes of Death among Exhumed Bodies in Karachi, Pakistan

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ABSTRACT

Aim: To explore the causes of death in exhumed bodies to discover the ground reality and to disclose the buried information for prosperous professional use.

Methods: This cross-sectional study was carried out in Karachi by the order of judiciary under section 176 Pakistan code of Criminal Procedure (CrPC). During the period of 3 years from 2014-2016 December, total 59 exhumations were carried out in and around Karachi region, carried out under the supervision of Police Surgeon Karachi according to the directions of Sind health department, confidentiality, ethical and procedural manners followed accordingly.

Results: Out of total 59 exhumations, there were 45 males, 13 females and 1 undetermined. The most common age group was between 20-29 & 30-39 years of age. There were 12 exhumations which were done to rule out identity by means of DNA and 01 for gender identification by DNA. The mode of death was mostly from firearm 16 cases, hard and blunt trauma 12 cases, asphyxia deaths 10 cases, poisoning 01 case and undetermined 07 cases. Regarding the condition of the body/corpse, fresh 2 partially decomposed 12, advanced decomposed 22 and skeletonized (no soft tissue) 23 in number.

Conclusion: After a long stretch of burial, assurance of the reason for death holds on troublesome. It relies upon the post-mortem interval and the burial conditions. Nevertheless, even without a formal conclusion, exhumation has conveyed incredible fulfilment to the family of the deceased, who was at last ready to approach reality behind the demise.

Keywords: Exhumation, Cause of death, Decomposition.

INTRODUCTION

Exhumation is the digging out of the already buried body from its grave for determination of its cause of death for both civil as well as criminal cases like disputed identity, accidental deaths to claim insurance, workman's compensation etc. or either homicidal, disguised homicide as suicide, death due to criminal abortion, suspected poisoning cases respectively, or when the first post-mortem was inadequate, tested or questionable and it is imagined that a second post mortem may uncover some more truths or can state any of the treachery is suspected.¹ The forensic examination after exhumation is standout amongst the most muddled circumstances that confront the forensic examiner. Formerly, it was considered as marginally contribute mainly in cases of putrefied cadaver. On account of advances in innovation and scientific knowledge, as applied

currently in forensic medicine, like medical imaging, genetics and biology, it is set up that these examinations can give significant data concerning the carcass' identity and the reason for death². An obscure issue can show itself through certainties gathered by further examination or by advances in the forensic sciences, of which DNA investigation is the most recent illustration³.

It turned out to be greatly worthwhile in situation like those following wars in Siberia where war casualties were tormented, damaged and covered in mass cemetery. Thus, exhumation turned out to be satisfying for the relatives, prompting the recognizable pieces of proof of the missing people. Geneva Convention of 1949 stores the privilege of the relatives to 'know the destiny of their perished relatives'⁴. As of late exhumation was performed on a broad scale for the distinguishing proof of missing people in the Iraq war⁵. To resolve murder/death related cases courts take more time to resolve the matter and wait for the autopsy report. Exhumation is required for the investigation of suspicious death when a body is buried. Arrangements of exhumation are the duty of the police and the investigating police officials improvise them within the graveyard. A team consisting of a duty magistrate, area police and a nominated medical examiner reach the place of burial of the deceased. Police cordons the area and

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protects the grave to avoid public exposure and interference⁶. Exhumations can be phenomenally helpful in criminal cases where contradicting evidence becomes known and additional physical evidence is required to discover reality. Ensuing examinations have been useful in uncovering the reason for death numerous years after interment.⁷

MATERIALS AND METHODS

This cross-sectional study was carried out in Karachi by the order of judiciary under section 176 Pakistan code of Criminal Procedure (CrPC) during the period of 3 years from 2014-2016. During this period total 59 exhumations were carried out in and around Karachi region by the team comprising of Medico-legal officer, Forensic Expert & Police surgeon Karachi.

RESULTS

There were 45 males, 13 females and 1 undetermined (Fig. 1). The most common age group was between 20-29 and 30-39 years of age (Table 1). There were 12 exhumations which were done to rule out identity by means of DNA and 01 for gender identification by DNA (Table 2). The mode of death was mostly from firearm 16 cases, hard and blunt trauma 12 cases, asphyxia deaths 10 cases, poisoning 1 case and undetermined 7 cases (Table 3). Regarding the condition of the body/corpse, fresh 2 partially decomposed 12, advanced decomposed 22 and skeletonized (no soft tissue) 23 in number (Tables 4-5)

Fig. 1: Distribution according to gender, of exhumed body

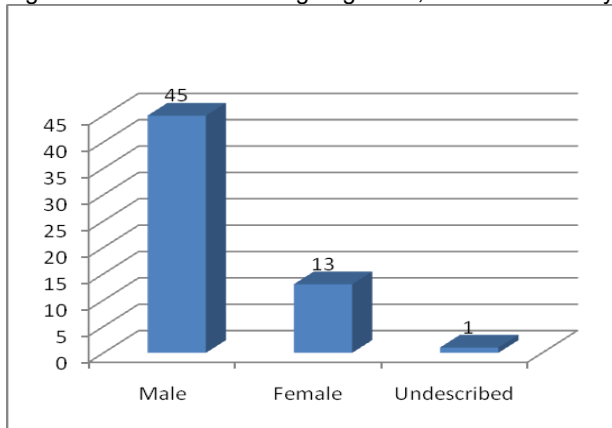


Table 1: Frequency of age according to exhumed bodies (n=59)

Age (years)	n	%age
< 10	2	3.38
10-19	4	6.77
20-29	22	37.28
30-39	22	37.28
40-49	4	6.77
> 50	5	8.47

Table 2: Frequency of purpose for exhumation (n=59)

Purpose	n.	%age
DNA for Identification	12	20.33
DNA for gender assessment	1	1.69
Determine cause of death	46	77.96

Table 3: Frequency of mode of death on exhumation (n=59)

Mode of Death	n	%age
Fire arms	16	34.78
Hard & blunt trauma	12	26.08
Asphyxia	10	21.73
Poisoning	1	2.17
Undetermined	7	15.21

Table 4: Frequency of time interval between death and exhumation (n=59)

Time (months)	n	%age
1- 3	37	62.71
4- 6	4	6.77
6-12	3	5.08
>12	16	27.11

Table 5: Distribution according to condition of exhumed body (n=59)

Condition of body	n	%age
Fresh	2	3.38
Partially Decomposed	16	20.33
Advanced Decomposed	18	37.28
Mummified or adipocere	--	--
Skeletonized (no soft tissue)	23	38.98

DISCUSSION

Exhumation alludes to the recuperation of a formerly buried body for post-mortem examination. It regularly happens a few days to months after burial(3). Some exhumation studies reported detailed time of burial fluctuating from 5 days to 20.5 years. However, it is infrequently performed numerous years after interment⁸. In Pakistan, there is no time confine settled for the disinterment of body as is laid in the Medical Jurisprudence and toxicology by Modi's though in France this period is constrained to 10 years, while it is 30 years in Germany⁹. Exhumation however considered as blasphemy, is a few times asked for by the heir of expired when there are inquiries about the reason for death¹⁰. In this area the undue postponement to direct exhumation is because of dread of shame and seniors of the family as a rule stay away from disinterment of precious ones¹¹.

Exhumation or disinterment is by and large considered as annoying and socially unaccepted (forbidden) strategy by most societies they bury their dead^{2,10}. However, rather than all societies and religious hindrances, exhumation is completed all through the world because of different reasons. The application for disinterment and exhumation of body

of perished could be moved even on basic ground of doubt and it is up to the legal aware of the scholarly Magistrate, who after due fulfilment may make the body disinterred and analyzed. Indeed, even something else, exhumation of body of the expired would be in interest of the applicant and his co-accused to excuse them from the assertions levelled in the FIR if their variant of innocence moves toward becoming genuine⁹.

Sometime exhumation is done on culture basis. Many early traditional societies set the cadaver in the ground and exhumed it at a later date for religious ceremonies¹². Exhumation is rarely done in India on the grounds that the bodies are incinerated in majority of the groups with the exception of few¹³.

In Jewish law, exhumation is forbidden, the focal Jewish conviction is that man was made in the picture of God and in death; man's body still holds the solidarity of that image. In like manner, a body must be rendered the best regard, nobility, and respect. Thusly (under the most customary understanding of Jewish law), there is a general forbiddance against examinations as a post-mortem distorts the body and disrespects the cadaver¹⁴.

Exhumations have been honed since old times. Religion of Islam has its own reservations with respect to exhumation and examinations of dead bodies. The Hadith by the Holy Prophet P.B.U.H denied breaking or harming the cadaver or breaking the bones of the dead. They couldn't be permitted until there is a sure need specifically identified with any of the five motivations behind the law called 'Maqasid-al-Shariat' These purposes include protection of religion, life and health, progeny, intellect and wealth¹⁵. The measurable examination after exhumation is the final resort for the legal conclusion of an unexplored or disgracefully investigated demise¹⁶.

In our study, out of 59 cases, cause of death need to be established in 46. Cause of death was determined in 39 cases. In other 7cases, autopsy was undetermined, therefore, the success rate was 84.78% and failure rate was 15.2%. Study demonstrates that an exhumation can answer various inquiries, in spite of the fact that by accord the accomplishment of an individual exhumation can't be anticipated^{17,18}. The achievement relies upon the inquiries to be replied and additionally the state of the body. The accomplishment of any exhumation depends not just on the technical means accessible to finish the asked mission, additionally on the preservation conditions of the dead body (length and condition of burial, ecological impacts)^{4,19}. After a short internment time, the success rate of exhumation for medico-legal purposes range from 66%^{6,20,21}. This is more outlandish conceivable after a

long period of burial¹⁷. The major deciding components for a conceivable result at exhumation are, basically, the nonappearance of soft tissue, the distinguishing proof of the ante mortem or postmortem character of the lesions and the subjection to ecological and taphonomic factors.²¹ Demirel et al²² also likewise reported that the odds of ascertainment of cause exceptionally relies upon the time interval between the internment and the exhumation.

The explanation behind failure is extensive strategy of exhumation, natural conditions, and internment process. In our country except for November to February when climatic temperature is underneath typical body temperature, rest of the year in many places like our study temperature stays more than the body temperature. Because of this ecological factor, decomposition begins within seven days⁴. Furthermore in neurogenic deaths no pathological changes can be detected²¹.

In Europe where consistently, environmental temperature stays underneath ordinary body temperature, putrefaction is postponed. Besides, perished are covered in wooden or press pine box after some embalming, this procedure additionally postpones the decomposition, henceforth achievement rate of exhumation if done in days is more in Europe when contrasted with our nation⁶.

In our study the most common age group was between 20-29 and 30-39 years of age. This is similar with other studies reported in other areas of Pakistan^{23,24}. Exhumation however considered as sacrilege, in some of the time asked for by the beneficiaries of deceased when there are riddles about the reason for death²⁵.

Henceforth, exhumations will dependably stay one of the vital methods for legal examinations. The Judiciary framework must request the concerned specialists to unearth dead bodies in situations where there is question with respect to the reason for death. Such immaculate assessment will bring about sign and conviction of the offenders and will build up a feeling of trust and regard of the all-inclusive community over the Judiciary and law requirement organizations.

CONCLUSION

After a long stretch of burial, assurance of the reason for death holds on troublesome. It relies upon the postmortem interval and the burial conditions. Postponed exhumation because of extensive legal requirements required in doing this procedure prompting deterioration of bodies, bringing about unascertainable reason for death. Early disintegration of bodies because of numerous reasons like hot

atmosphere, water logging and saltiness, inappropriate waste of cemeteries and so forth is a bar to find out reason for death. Nevertheless, even without a formal conclusion, exhumation has conveyed incredible fulfillment to the family of the deceased, who was at last ready to approach reality behind the demise.

RECOMMENDATIONS

Based on findings in our study we can recommend that (1) legal procedures may be simplified so that exhumation can be performed as early as possible to avoid putrefactive changes and (2) proper drainage of graveyards be maintained to avoid early putrefaction.

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