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ORIGINAL ARTICLE

To Establish the Cause, Manner and Modalities of Death in Medicolegal Autopsies Performed at Lahore General Hospital

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ABSTRACT

Objectives: To evaluate and compare findings with special reference to mode, manner and cause of different cases of autopsies conducted at Lahore General Hospital during a particular time period.
Study Design: Cross sectional.
Place and Duration of Study: Autopsy Section of Lahore General Hospital, Lahore 1st January 2019 to 31st December 2020.
Methodology: Fifty (74% males, 26% females) medicolegal autopsies were collected. The observations recorded in predesigned Performa with an emphasis on age and sex of subjects, type of injuries, identify fatal injuries, and month-wise variation in performing autopsies.
Results: 30% of the deaths were found to be due to non-apparent causes of death. Firearm accounted for 12% of the deaths whereas 9% were asphyxial deaths. Majority of the victims belonged to age group 20-30 years (22%). Majority of the cases came on the month of August.
Conclusion: In majority of the medicolegal autopsies, male population was involved and caused by Firearm injuries (Homicidal) although number of cases where there was no apparent cause define was also high. Most affected age group was 20-30 years (22%). August and October were the months where majority of the cases came.
Keywords: Medicolegal autopsy, Cause, Manner, Modalities

INTRODUCTION

In documenting medicolegal autopsies in Pakistan, the most ambiguous and obscure category in voicing an opinion in a medicolegal autopsy case is over the manner of death. This trend unfortunately has not changed even in recent years due to a number of limitations within the system. Therefore, it would not be a very sound practice to categorize medicolegal autopsy cases into suicidal, homicidal, and accidental varieties without any solid scientific basis. All one can do for the time being is to observe and objectively report the medicolegal work being done without reaching any concrete conclusions. As data from these observations grows may be then it would be possible to interpret these findings about medicolegal autopsies here in Pakistan.[1,2]

In developed countries everywhere in the world, however, other than the main goal of deciding the cause of death, the forensic pathologist should build the manner of death (natural, and unnatural like accidental, suicidal, or homicidal), the identity of the dead one (for unknown), and the time since death or injury.[3]

Due to the conceivable medicolegal implications of legal cases, not exclusively should the previously mentioned judgments be made, however the discoveries or absence of them should be archived. As a rule, the reason and manner of death might be self-evident. It is the documentation of the injuries or absence of them, just as the understanding of how they happened and the assurance or prohibition of other contributory or causative elements that are important.[4]

In the Developed World, the postmortem involves not only the whole examination (external and internal) of the body at the autopsy table, but there is variation in the viewpoints of other pathologist that does not believe to be part of the postmortem examination - the crime scene, clothing, and toxicology. The autopsy starts at the scene there. In Principles established for modern medicolegal work, the Forensic experts could not perform a forensic autopsy unless they give importance to the scene of crime. This is an essential rule that is regularly disregarded especially in Pakistan.

MATERIALS AND METHODS

It was a cross sectional study carried out over a period of one year from 1st January 2019 to 31st December 2019 in Lahore general hospital. All medicolegal autopsies carried out during the study period were included (all known and unknown cases). Cases other than medicolegal deaths did not come for autopsied were excluded. Also, the dead bodies submitted by police with a requisition for partial / external postmortem examination were excluded from this study. Particularized Performa was designed to systematically document the no of cases, age, sex, no of injuries, type of injuries, monthly distribution of autopsy cases and opinion given on the cause of death or remained pending. The data was entered and analyzed through SPSS-20.

RESULTS

The large number of cases 15 (30%) were those in which there was no apparent cause of death, while cases in which obvious cause was defined were the top most was death due to firearm injuries 12 (24%), then deaths due to asphyxia 9 (18%), due to poisoning 5 (10%), due to blunt weapon 4 (8%), due to sharp edged weapon 3 (6%) and only 2 (4%) due to road traffic accidents.

Male cases were predominantly higher, 37 (74%) cases were male and 13 (26%) were female. Male predominance was also shown in cases death due to firearm injuries, out of 12, 11 cases belong to male population similarly in deaths due to blunt and sharp edge weapon but the deaths due to asphyxia and due to poisoning the female cases were quite high. Age group involved in most of the cases was 20-30 years 11 (22%). Then 30-40 years 9 (18%), 40-50 years 9 (18%), 50-60 years 5 (10%), a very few cases were observed above 70-80 years of age respectively. Monthly distribution of autopsy cases was as follows. August was the peak months 16 (32%), 8 (16%) cases came in month of October then March 4 (8%), January 3 (6%) respectively. In death due to blunt weapon hematomas and hemorrhage was most common then fractures and other injuries bruises and lacerations were also present, similarly death due to sharp edge weapon the most common injury was hematoma and hemorrhages. In all asphyxial death cases most common type of injuries were non-specific findings like cyanosis, petechial hemorrhages and congestion bruises, laceration, and abrasion. In road traffic accident fractures, bruises and laceration was the most common injuries. Out of 5 poisoning cases, 1 case (female) has associated injuries, (previous healed incised wounds and hesitational cuts, while other cases have findings on brain, lungs and abdominal viceras. The cases with no apparent cause 3 bodies were putrefied, 4 has smoky lugs, while congestion of liver and kidney was significant in many cases. In 36 (72%) autopsy cases Opinion about Cause of death was given, in 14(28%) cases Opinion about cause of death was pending.

Table 1: Percentages of Each category

Category	No.	%
Cases with no apparent cause of death	15	30.0
Deaths due to firearm injuries	12	24.0
Asphyxial deaths	9	18.0
Deaths due to poisoning	5	10.0
Deaths due to blunt weapon	4	8.0
Deaths due to sharp edged weapon	3	6.0
Deaths due to road traffic accidents	2	4.0

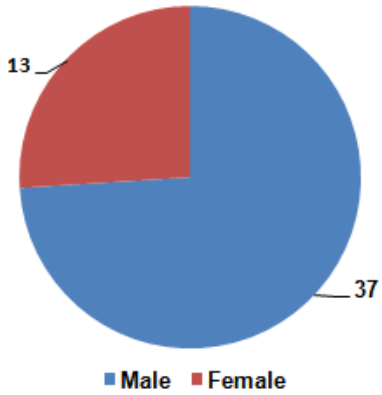

Fig. 1: Frequency of gender

Table 2: Frequency of age (50)

Age (years)	No.	%
<1	3	6.0
1-10	1	2.0
11-20	4	8.0
21-30	12	24.0
31-40	10	20.0
41-50	9	18.0
51-60	6	13.0
61-70	2	4.0
71-80	3	6.0

Table 3: Frequency of cases according to monthly (n=50)

Month	No.	%
January	3	6.0
February	1	2.0
March	4	8.0
April	3	6.0
May	2	2.0
June	3	6.0
July	3	6.0
August	16	32.0
September	2	4.0
October	8	16.0
November	2	4.0
December	3	6.0

Table 4: Number of cases of each category with injuries

Category	Type of injuries										
	Fractures	Hematomas/ hemorrhages	Vital organ damage	Bruises, lacerations, abrasions	Vascular damage	Collar of abrasion	Ligature mark	Fracture of hyoid bone	Cyanosis, congestion, petechial haemorrhages	Incised wound/cut throat	Penetrating wound
Deaths due to Firearm injuries (total cases 12)	7	5	8	0	12	4	0	0	0	0	0
Deaths due to blunt weapon (total cases 5)	3	4	3	3	2	0	0	0	0	0	0
Deaths due to Asphyxia (total cases 9)	0	0	0	9	0	0	3	2	9	0	0
Deaths due to Sharp edged weapon (total cases 3)	1	2	3	0	3	0	0	0	0	1	2

Table 5: Number of injuries and findings on internal examination due to poisoning

Category	Findings on internal examination			Associated injuries, (previous healed incised wounds and hesitational cuts)
	Brain	Lungs	Abdominal viscera	
Deaths due to poisoning (5 cases)	1	2	2	1

Table 6: Condition of the body in which no apparent cause of death

Category	Condition of the body		Congested viscera		
	Putrefaction	Smoky lungs	Stomach	Brain	Liver/kidney
Cases with no apparent cause of death (total cases 10)	3	4	1	2	3

Table 7: Total number of cases by category with Manner of death

Homicidal	27
unknown	19
Suicidal	2
Accidental	2

DISCUSSION

In our study of Autopsy profile, male to female ratio was found to be higher in male population 74% (males) cases and 26% cases of female. This figure is similar to other studies.[5] Regarding age group in our study 22% cases belong to 20-30 years. This is comparable to finding of Ishfaq et al[5] 22% cases 30-39 age and Naseem et al[6] 52% cases 20-40 years of age. But the early 20's age is the predisposition towards violence in our study is similar with other studies in Pakistan.[7]

Regarding manner most common was Homicide. The pattern of homicide in Lahore is more or less than same as in other countries of Pakistan. The most common reason behind for homicide are low literacy rate, communal violence, provocatory behavior, and poverty and property dispute at pity matters.[7-9] Easy availability of deadly weapon at an affordable price is yet another factor for the high rate of homicide. Out of total 27 cases of homicide as occurrence of homicide is increased in month of August. The reason could be the having highest humidity and temperature, they people are already frustrated with the resultant heat in behavior of people, as same reported previously.[7,10] Weather is also correlated to the condition of the body found after death. In summer most of the putrefied body found while in unknown bodied most common finding was smoky lung. After homicide the second most common manner was unknown cause of death (19 cases). Almost 70% of the world's population dies due to poor functional vital system of the body.[11,12] There most death occurs outside of medical facilities are neither enumerated nor classified by cause.[13,14]

Most of the cases (11) syncopy was the main cause, then coma (8 cases) and then combination of coma and syncopy (9) by this figure we can easily understand the prevalence of heart disease especially through syncopy among the population.[15]

In our study there was another finding that some cases in which opinion about the causation of death was given 36 (72%) but many cases in which opinion about cause was pending 14 (28%). The cases in which cause remained unidentified are also include unknown dead bodies. Such cases are to test the competence and skill of the expert doctor to investigate and find the cause of death and establish identity of the unknown. Most of these cases require time to through investigate the findings so these pending cases can be solved, and opinion can be inferred. Previous literature didn't show as much information regarding the unidentified and opinion less cases.[16-18]

CONCLUSION

Out of 50 cases 37 (74%) were males and 13 (26%) were found to be females and the male. The age group with the highest incidence of death is 20-30 followed by 30-40. Out of the total cases highest were homicidal and those in which there was no apparent cause was found. Most affected age group was 20-30 years (22%). August and October were the months where majority of the cases came. The commonest mode of death was coma and syncopy. In most of the cases opinion about the cause of death was given.

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