



STUDY ON THE DIFFERENT ASPECTS OF SUDDEN DEATH CASES RECEIVED AT DMCH MORTUARY

Medical Science

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ABSTRACT

Sudden death can be defined as the sudden or unexpected death of a apparently normal healthy people from natural diseases. An autopsy is desirable in persons covered by an insurance policy. **Aims and Objectives:** To know about the most predominant system of involvement (CardioVascular, Respiratory, Central Nervous, Genito Urinary) from the Post-Mortem Report. **Materials and Methods:** Material for the present study comprise 150 cases of Sudden Death cases with no known history of any pre-existing diseases autopsied in Darbhanga Medical College. All Post-Mortem Certificates and case records in the mortuary files were studied for Sudden death cases with noknown history of any pre-existing disease over a period from September 2019 to August 2020. **Results:** In Our study, Maximum number of deaths i.e., 54 Cases (36%) occurred in the age group of 36-40 Years, followed by 30-35 Years age group (27%). Maximum number of cases died due to sudden death presented with complaints of sudden unconsciousness (53%) as presenting complaints. was confined to the Cardio Vascular system due to Coronary Arterial Heart Disease followed by Tuberculosis and Intracranial Haemorrhage. **Conclusion:** The above observations suggest that most of the Sudden Deaths were due to preventable causes including infections (Tuberculosis, Pneumonia, Bronchiectasis, Emphysema etc.).

KEYWORDS

Sudden Death, Post-Martem Finding.

INTRODUCTION

Sudden death can be defined as the sudden or unexpected death of a apparently normal healthy people from natural diseases. (1) **Emphasis placed on the unexpected character rather than the suddenness of the death.** Suspicion usually arises when an individual is found dead and nobody witnessed it. An autopsy is desirable in persons covered by an insurance policy. (2) As per WHO-Death is said to be sudden and unexpected when a person not known to have been suffering from any dangerous disease, injury or poisoning is found dead or dies within 24 hours after the onset of terminal illness. But some say sudden death as those occurring instantaneously or within one hour of onset of signs and symptoms. Simply sudden death is defined as sudden or unexpected death a apparently healthy individual from natural cause. It should be remembered that natural death means that the death was caused entirely by the nature of the disease, and trauma or poison did not play any part in bringing it about. (2) In many occasions the individual may not die immediately but fight for few hours after the onset of terminal symptoms. Sometimes sudden deaths occur in older individual and generally under circumstances which arouse no suspicion. But such deaths in younger individuals are likely to cause suspicion. A Medical Officer should not issue death certificate in cases of sudden death without autopsy and so far its suddenness is expected, the doctor should report such case to the legal authorities for necessary investigation. (3). The incidence of Sudden death is approximately 10 percent of all deaths. Where diseases of Cardiovascular system account for about 45-50%, diseases of Respiratory system 15-23%, diseases of Nervous system 10-18%, diseases of Alimentary system 6-8%, diseases of Genito-urinary system 3-5% and 5-10% are of miscellaneous causes. (4) It is very arduous to make a comparison of the incidence of sudden death in various parts of the world because it widely varies in the prevalence of various diseases in different countries, environmental, socio economic and genetic factors. Apart from this, the range observed in the various reported incidence of sudden death in different studies may be due to various definitions of sudden death, inclusion criteria, exclusion criteria and age groups selected for the respective study. (4). Establishing the cause of death in Sudden death cases is really a matter of challenge for an Autopsy Surgeon because the very purpose of Medico legal Autopsy in sudden death cases is to determine whether violence or poisoning has been in anyway responsible for the death. It has to be remembered that absence of external signs of injury does not rule out death from violence. The age of the deceased, reliable information regarding past health, illness and above all the presence of witness at the onset of terminal symptoms is very much needed in deciding the real necessity for an autopsy. In most of the cases due to celerity of events necessary emergency investigations like ECG, chest X-ray, etc. had not been performed. And above all due to lack of reliable witness or close relatives, in many cases, detailed clinical history could not be retrieved. (4)

AIMS AND OBJECTIVES:

To know about the most predominant system of involvement (CardioVascular, Respiratory, Central Nervous, Genito Urinary) from the Post-Mortem Report.

MATERIALS AND METHODS

Material for the present study comprise 150 cases of Sudden Death cases with no known history of any pre-existing diseases autopsied in Darbhanga Medical College. All Post-Mortem Certificates and case records in the mortuary files were studied for Sudden death cases with noknown history of any pre-existing disease over a period from September 2019 to August 2020.

The Data Consists of:

1. History furnished by the police while submitting the requisition for Post-Mortem Examination.
2. Detailed examination findings of the deceased who died due to sudden death with no history of any pre-existing diseases autopsied in the Department of Forensic Medicine and Toxicology.
3. Post-mortem report of the above said cases (Cause of Death).
4. Photographs of the organs (Gross Photographs) Taken during Post-Mortem Examination.
5. Specimens which were sent to pathology department and Histopathological Photographs pertained to the specimen obtained from the Department of Pathology.

INCLUSION CRITERIA:

All Brought Dead Cases of Age Group between 18 Years to 40 Years with no history of any pre-existing diseases.

EXCLUSION CRITERIA:

Age group less than 18 years.
Age group more than 40 years.
Unnatural deaths due to accidents, suicides and homicide.
Treated cases for any previous ailments.
Poisoning cases.
Animal Strike / Sting (Snakes, Scorpion etc).

RESULTS:

In Our study, Maximum number of deaths i.e., 54 Cases (38%) occurred in the age group of 36-40 Years, followed by 30-35 Years age group. Maximum number of cases who died due to sudden death, was more in males when compared to that of females. Majority of the Sudden Death victims were belonging to Hindu religion, belongs to urban area, Married, labourers by occupation, addicted to Alcohol (39%). (5)

Maximum incidents of sudden death (42%) occurred during January to March, between 12.00 P.M. to 06.00 A.M (34%), followed by 6.00 A.M. to 12.00 P.M. (35%), (6) at home (46%), (7) Maximum number of cases died due to sudden death presented with complaints of sudden unconsciousness (53%) as presenting complaints. was confined to the Cardio Vascular system due to Coronary Arterial Heart Disease followed by Tuberculosis and Intracranial Haemorrhage. (8)

Table-1: Age Wise Distribution

Years	No. Of Cases	%
18-23	15	15
24-29	21	21
30-35	27	27
36-40	36	36
Total	150	150

Table 2: Cause Of Death Distribution

CAUSE OF DEATH	NUMBER OF CASES	%
CORONARY ARTERIAL HEART DISEASE	38	25
TUBERCULOSIS	13	8
PNEUMONIA	11	7
INTRACRANIAL HAEMORRHAGE	11	7
ATHEROSCLEROSIS OF THE AORTA	9	6
SEIZURE DISORDER (EPILEPSY)	9	6
RUPTURE OF THE HEART	8	5
CIRRHOSIS OF LIVER	7	4
CAUSE OF DEATH NOT KNOWN	7	4
SEPTICAEMIA	6	3
BRONCHIECTASIS	5	2
EMPHYSEMA	5	2
RUPTURE OF ANEURYSM IN THE BRAIN	5	2
HYPERTROPHIC CARDIO MYOPATHY	4	2
STRANGULATED HERNIA	3	1
DUODENAL PERFORATION	3	1
RUPTURE OF FALLOPIAN TUBE	3	1
PYELONEPHRITIS	3	1
TOTAL	150	150

DISCUSSION

Determination of the cause of death in younger aged people is difficult to opine and in most of these cases post- mortem examination can provide valuable information in the interest of the society and public health by identifying the risk group and major contributory causes of death in these victims. (9) In my study maximum number of cases who died due to sudden death, 95 cases (63%) was more in males when compared to that of females which is similar to the study conducted by other authors. it may be due to increased stress pertained to their job and dependence towards any substance abuse in males. In my study majority of the Sudden Death victims were belonging to Hindu religion which is similar to the study conducted by references no 1,2,3,4,5,6,9. This may be attributed to the nation (India) .Where majority belong to the Hindu religion and also confined to the study locality in which majority were Hindus. (10)

In my study maximum incidents of sudden death (41%) occurred during January to March. Which is similar to the study conducted by references no 1,2,3,7,8,9,10,11. In India January to March is considered as Summer Season. The reason for increased incidence of sudden death during this season may be attributed to the heat (Increased Perspiration) resulting in dehydration, stroke etc which may cause sudden death. (11)s

In my study maximum incidence of sudden death occurred between 12.00 P.M. to 06.00 A.M (34%), followed by 6.00 A.M. to 12.00 P.M. (35%). Which is similar to the study conducted by review no 1, 9. The high incidence of sudden death during 12.00P.M – 06.00 A.M could not be explained because maximum data was not available to compare about the time of sudden death. However if vast data is available and the reasons for sudden death pertained to this time period is compiled a good precaution about the timing pertained to sudden death can be explained. In my study Maximum number of cases died due to sudden death presented with complaints of sudden unconsciousness (53%) as presenting complaints. Which is similar to the study conducted by

review no 1, 2 and 3. The sudden unconsciousness may be attributed to any silent pre-existing pathology like aneurysm, Rupture etc. This clinical symptom should be dealt seriously and immediate attention should be drawn so that the necessary investigations shall be taken and treat conservatively/ surgically for the survival of the person.

In my study majority of the cases who died of sudden death was confined to the Cardio Vascular system (25%) which is similar to all my review studies. This indicates that Cardio Vascular system is the most involved system in sudden death cases. This may be attributed to sedentary life style, lack of exercise and high intake of fatty food substances which may lead to the formation of atheromatous plaques in the vessels there by leading to Hypertension, Myocardial Infarction etc.

In my study majority of the deceased died due to Coronary Arterial Heart Disease (25%) followed by Tuberculosis (8%) and Intracranial Haemorrhage (7%). This is similar to the study conducted by References no. 1,2,3,4,6,7,9,10,11,. This is due sedentary life style, lack of exercise and high fatty intake leading to the formation of atheromatous plaques. In recent studies it has shown that majority of the people die due to stress resulting in sudden spasm of the coronary arteries there by resulting in coronary stenosis and death.

CONCLUSION

The above observations suggest that most of the Sudden Deaths were due to preventable causes including infections (Tuberculosis, Pneumonia, Bronchiectasis, Emphysema etc.). Involvement of Cardio Vascular System which still appears to be the major risk factors of sudden death was mostly due to mismanaged blood pressure level. A meticulous post-mortem examination along with histo pathological study and detailed toxicological analysis can pinpoint the actual cause of death. Inspite of meticulous post – mortem examination in certain sudden death cases the autopsy becomes negative, because to conclude through histo pathological examination also there is no sufficient time for the markers like inflammatory cells which can be interpreted through microscopic examination. Endocrine disturbances leading to sudden death also cannot be explained because of non-availability of postmortem sample data for comparison confined to that specific area.

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