

Sudden Death: Clinical & Medico - Legal Aspects

O. Gambhir Singh

Professor, Department of Forensic Medicine, SRM Medical College Hospital and Research Centre, SRM Institute of Science and Technology, Potheri, Kattankulathur 603203, Chengalpattu District, Tamil Nadu, India
Email: drgambhirsingh[at]gmail.com
Mobile No.9629047798

Abstract: Sudden deaths occur in apparently healthy people within a very short span of time. According to the WHO, death occurs in less than 24 hours from the onset of symptoms. Important risk factors are a sedentary lifestyle, diabetes, hypertension, low or high body mass index, stressful lifestyle, old age, smoking, and unhealthy diets. Cardiac diseases are the leading cause of sudden death almost in all age groups of both sexes. When the doctor is not sure about the exact cause of death, the cause of death should not be issued in such cases. Instead of that, the nearest police station must be informed after registering the case in the medico - legal register.

Keywords: Sudden death, Cardiac diseases, Medico - legal cases, Suicide, Homicide

1. Introduction

There is no universally accepted definition of sudden death and the time period of 1 to 48 hours has been used in different countries¹. However, in general, sudden death is defined as the death of an apparently healthy person who is not known to have been suffering from any dangerous disease, injury, or poisoning and is found dead less than 24 hours after the onset of the terminal illness. The Association for European Cardiovascular Pathology has defined sudden death as death occurring within 6 hours of the beginning of the symptoms in an apparently healthy person². The World Health Organization has defined it as death, non - violent and not otherwise explained occurring less than 24 hours from the onset of symptoms³. This follows the guidelines of the International classification of diseases, version 10 (ICD - 10). However, there are some differences in opinion, some authors consider only those death occurring instantaneously or within one hour from the onset of the terminal symptoms⁴. But in general, importance seems to be given to the unexpected nature of the death instead of suddenness.

Sudden death occurs in all age groups both male and female⁵⁻⁸. No age and no sex are exempted. The incidence is about 10% of all deaths⁴.

Risk Factors & Causes:

Important risk factors are a sedentary lifestyle, diabetes, hypertension, low or high body mass index, stressful lifestyle, old age, smoking, and unhealthy diets⁹⁻¹¹. Katz A et al. observed some seasonal variation, the incidence being highest reported in winter, followed by autumn, spring, and summer¹². Important causes are: -

- 1) Cardiovascular System (45 to 50%): Coronary atherosclerosis with coronary thrombosis, coronary atherosclerosis with hemorrhage in the wall, coronary artery embolism, angina pectoris, spontaneous rupture of the aorta, disease of the conducting system of the heart, valvular heart diseases, acute endocarditis, myocarditis, pericarditis, congenital heart diseases, etc.
- 2) Respiratory System (15 to 23%): Pneumonia, bronchitis, rupture of the blood vessel in TB with cavitation, pulmonary embolism, lung abscess, pneumothorax, bronchial asthma, malignancies, etc.

- 3) Central Nervous System (10 to 18%): Hemorrhage, thrombosis & embolism, cysts of the third or fourth ventricle, etc.
- 4) Gastro - intestinal System (6 to 8%): Perforation & hemorrhage, acute hemorrhagic pancreatitis, strangulated hernia, obstruction & intussusception of the bowel, paralytic ileus, appendicitis, rupture of liver abscess, rupture of splenomegaly, obstructive cholecystitis, etc.
- 5) Genito - urinary System (3 to 5%): Nephritis, nephrolithiasis, obstructive hydronephrosis, renal tuberculosis, malignancies, rupture of ectopic pregnancy, toxemia of pregnancy, twisting of the ovary, ovarian cyst or fibroid tumor, etc.
- 6) Miscellaneous (5 to 10%): Addison's disease, hemochromatosis, hyperthyroidism, shock due to emotional excitement, reflex vagal inhibition, etc.

Medico - Legal Aspect:

In all cases of sudden death where the cause of death is suspicious or unknown, the clinician must not issue the cause of death certificate. If the person dies on the way or just reaches the hospital and expired then it must be treated as a case of brought dead and inform the police after registering the case as a medico - legal one. All the deaths that occurred within 24 of hospitalization without the establishment of a diagnosis must also be treated as a medico - legal case. Once it is made a medico - legal case then it must be entered into the accident register and the police must be informed as per Sec.39, CrPC. Any failure to inform the police of such a medico - legal case may invite prosecution of the doctor under Sec.176/or 202, IPC. In such cases, the cause of death will be established after doing a medico - legal autopsy. It is necessary to rule out any possibility of unnatural death. Sometimes, natural death also may be projected as an accidental death for fake insurance claims.

2. Discussion

The incidence of sudden death may be estimated at about 10% of all deaths classified as natural. Different studies conducted across the world report that the leading cause of sudden death is cardiac problems¹³⁻¹⁶. Cardiac problems

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may also cause sudden death in infants and a very young age group, 1 to 2 years age range¹⁸. In one study conducted in Gujarat, Rahul A et al. reported that in about 56% of the sudden death cases in the age group 15 to 45 years, the leading cause of death was cardiac - related¹⁷. About 50% of all cardiac deaths are sudden in nature and coronary artery disease is the most common cause of all sudden cardiac deaths in western countries. Even coronary artery spasms can lead to sudden cardiac death, particularly in male smokers with minimal or no pre - existing coronary artery diseases. In the 0 – 13 age group, the commonest cause of sudden cardiac death was found to be congenital heart anomalies.

The second most common cause of sudden death, as reported by Rahul A M, Mubin I P, et al.¹⁷, was respiratory diseases such as tuberculosis, pneumonia, bronchiectasis, etc. Other common non - cardiac causes of sudden death are intracranial hemorrhages, hepato - biliary diseases, and infectious diseases.

Doctors must be very careful because in some cases, suicides may be disguised as sudden natural death. One such case was reported by Brandt - Casadevall, et al.¹⁹. In another incident, Srinaga P, et al. reported a case of sudden natural death masquerading as accidental death²⁰. On the other hand, sudden natural death may also occur during accidents or attempted assault²¹.

3. Conclusion

The incidence of sudden death may be estimated at about 10% of all deaths classified as natural. No age or sex is immune to sudden death though it is more commonly seen in males. If the doctor is not sure about the exact cause of death, the death certificate should not be issued in such cases. It is always better to make them medico - legal cases and accordingly the nearest police station must be informed.

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