



Pathology Biology Section – 2011

G3 Sudden Unexpected Cardiac Deaths: An Autopsy Based Study From Mangalore, South India

Tanuj Kanchan, MD*, Kasturba Medical College, Department of Forensic Medicine, Light House Hill Road, Mangalore, 575 001, INDIA

After attending this presentation, attendees will be able to identify with the pattern and trend of sudden cardiac deaths in a coastal region of South India.

This presentation will impact the forensic science community by developing an understanding of the burden of sudden cardiac deaths in the coastal region. This presentation defines the problem status of sudden cardiac deaths in the region and emphasizes the importance of forensic pathologists in diagnosing the same at autopsy.

Forensic pathologists deal not only with unnatural deaths, but also with a wide range of natural deaths, especially, if the death occurs suddenly in apparently healthy individuals. Cardiovascular diseases are reportedly the most important cause of sudden natural deaths. Sudden cardiac death is defined as death due to cardiac causes, heralded by abrupt loss of consciousness within one hour of the onset of acute symptoms, in an individual who may have known preexisting heart disease but in whom the time and mode of death are unexpected. This

autopsy based retrospective research was conducted to determine the causes and the epidemiological aspects of sudden cardiac deaths in Mangalore, a coastal township in South India. The study was conducted at the Department of Forensic Medicine, Kasturba Medical College, Mangalore. All the cases recorded in the departmental file as sudden deaths from January 2005 to December 2007 were included in the study and autopsy case files of the same were studied in detail. The data was analyzed using statistical software.

During the study period a total of 1864 autopsies were conducted, of which 207 cases were classified as sudden unexplained deaths. Sudden cardiac deaths constituted of 39.6% of the total sudden deaths during the study period (n=82). Males were predominantly affected (91.5%). Age of victims varied from 19 to 80 years, mean age of the victims being 49.96 years. Majority of deaths were reported in the 5th and 6th decade of life. Mean BMI was 20.8 kg/m². The monthly distribution revealed that most of the sudden cardiac deaths were reported in May followed by February. Weight of heart varied from 210 to 560 grams (Mean=335.4 grams). Coronary artery diseases remained the most common cause of sudden cardiac deaths followed by cardiac hypertrophy, cardiomyopathy, myocarditis, and valvular diseases. More than 50% occlusion of the coronary arteries was evident in approximately half of the cases. Left anterior descending artery was the most commonly affected. Atherosclerotic changes were observed in the great vessels in most of the cases.

Cardiac causes are responsible for most of the sudden deaths in this region and coronary artery diseases are responsible for most of the cardiac deaths. Atherosclerotic changes were observed in the great vessels in most of the cases in our study. Atherosclerosis is responsible for significant cardiovascular morbidity and mortality worldwide. Medicolegal autopsies are an important source of epidemiological data that should effectively be used in planning the preventive strategies. Modifying the stressful life style and screening those at high risk are the measures to be emphasized to prevent such deaths.

Sudden Death, Cardiac Death, Coronary Artery Disease