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ORIGINAL ARTICLE

Heart Disease Deaths in Jabalpur Region, an Autopsy based Retrospective Study

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Abstract:

To retrospectively find the different pathologies of heart disease in the cases examined at mortuary of NSCB Medical College, Jabalpur, M.P To find the incidence of heart disease in different age groups and different sex. To find the incidence of different pathologies of heart 2911 autopsies were performed during the time period of October 2021 to September 2022, out of that 83 cases of cardiac deaths were found. Deaths due to non-cardiac causes, such as trauma were excluded. Study Design – Cross sectional study, retrospective. Study Area – Jabalpur region Study Population – All autopsy cases which came to NSCB MC mortuary during the time period of October 2021 – September 2022. Out of total 2911 autopsies conducted, 83 cases of heart disease deaths were recorded. Among them 81.93% were due to coronary artery disease (CAD). 59.04% cases had cardiomegaly and heart weight was more (>420 grams) in 59.04 % cases. Among 83 cases of cardiac deaths 92 % victims were males and 8 % were females. The peak incidence of heart diseases was found to be in the age group of 40-49 years (27.71 %) followed by 50-59 years (26.51%). Least incidence were found in the age group below 19. Most of the heart disease deaths examined were due to coronary artery disease(CAD). Majority of victims were males. Hence this data shows us the quintessential requirement of intervention in the prevention of heart diseases.

Keywords: Heart disease; CAD; Cardiomegaly; Deaths.

Introduction:

Heart diseases comprise the most prevalent serious disorders in industrialized nations and are a rapidly growing problem in developing nations.[1] Heart disease is now the most common cause of death worldwide. Before 1900, infectious diseases and malnutrition were the most common causes, and heart disease was responsible for <10% of all deaths. In 2017, heart disease accounted for 17.8 million deaths worldwide (32%), with the same rate now occurring in high, low and middle-income countries.[1] India has one of the highest burdens of heart disease worldwide. The annual number of deaths from heart disease in India is projected to rise from 2.26 million (1990) to 4.77 million (2020).[2] Coronary artery disease(CAD) prevalence rates in India have been estimated over the past several decades and have ranged from 1.6% to 7.4% in rural populations and from 1% to 13.2% in urban populations.[3] Atherosclerosis is primarily a disease of aorta, carotid, iliac and coronary arteries. Recent advances in the field of modern medicine with the effective treatment life expectancy has been increased and an improvement in the quality of life but despite these achievements, the prevalence of coronary artery disease (CAD) still remains high.[4]

Aim and Objectives : Aim :- To retrospectively find the different pathologies of heart disease in the cases examined at Mortuary of NSCB Medical College, Jabalpur, M.P.

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Objectives :- (1)To find the incidence of heart disease in different age groups and different sex. (2)To find the incidence of different pathologies of heart

Materials and methods:

2911 autopsies were performed during the time period of October 2021 to September 2022, out of that 83 cases of cardiac deaths were found. Deaths due to non-cardiac causes, such as trauma were excluded.

Results:

2911 autopsies were performed during the time period of October 2021 to September 2022 out of that 83 cases of cardiac deaths were found. The cases in study were divided into different age groups according to the age and sex. 76 (92%) victims were males and 07 (8%)were females (table 1 & figure 1). Below 20 years and above 80 years 2 cases were found, who died from heart disease.

Most of the deceased from both sexes belonged to 40-49 years (27.71%) followed by 50-59 years (26.51%) and least incidence were found in the age group below 19 years and >80 years. (table 2 & fig 2). There were 49 cases with cardiomegaly . Any person with a heart in excess of 420gm is at risk of sudden death 5 (table 3,4 & fig.3 ,4). Maximum heart weight recorded in 1 case was 900gms among the all cases of heart disease deaths. 81.93% were due to coronary artery disease (CAD). Followed by cardiac tamponade 10.84% and 7.23% cases of other heart diseases such as myocardial bridging etc (table 5 & fig. 5).

Discussion:

There is considerable increase in the number of deaths due to coronary atherosclerosis in India and this number is probably expected to increase in the coming decades if not controlled.[6] The

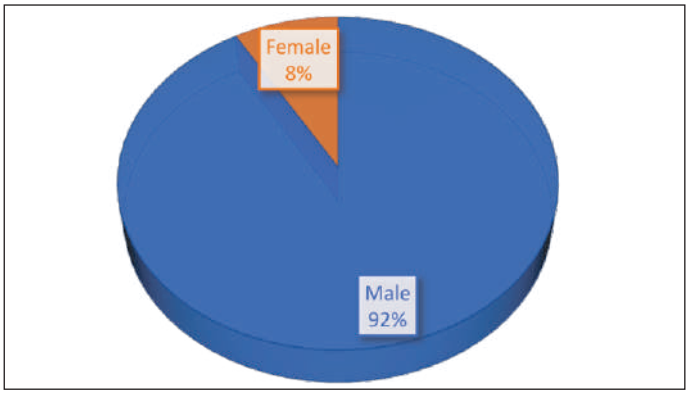

Figure 1. Percentage.

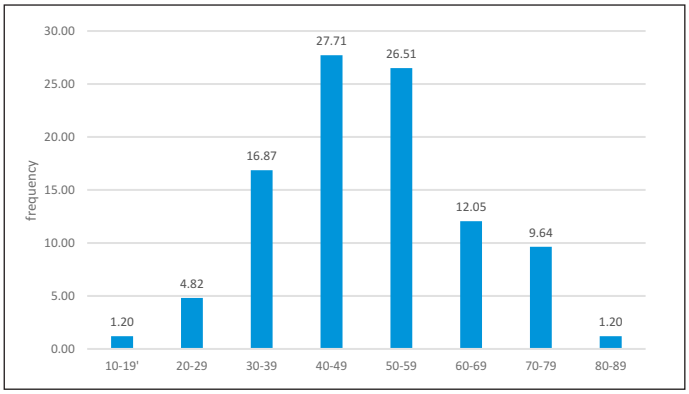

Figure 2. Age group.

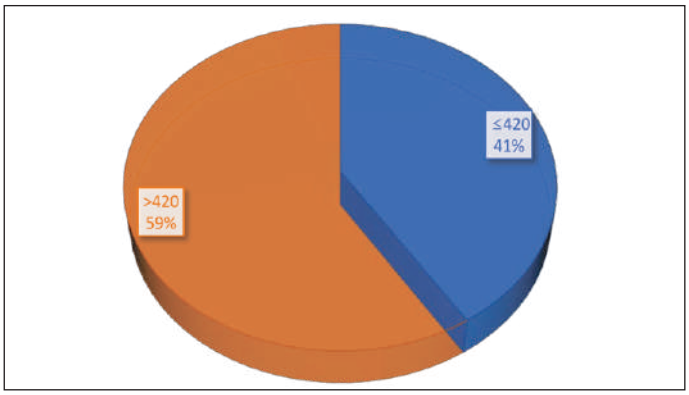

Figure 3. Heart weight.

Table 1. Gender – wise distribution of deaths due to heart disease.

Gender	Frequency	Percentage
Male	76	91.57
Female	7	8.43
Total	83	100.00

Table 2. Age group – wise distribution of deaths due to heart disease.

Age Group	Frequency	Percentage
10-19'	1	1.20
20-29	4	4.82
30-39	14	16.87
40-49	23	27.71
50-59	22	26.51
60-69	10	12.05
70-79	8	9.64
80-89	1	1.20
Total	83	100.00

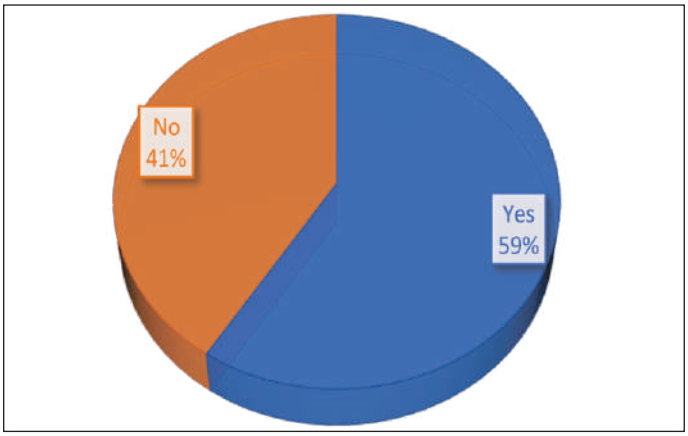

Figure 4. Cardiomegaly.

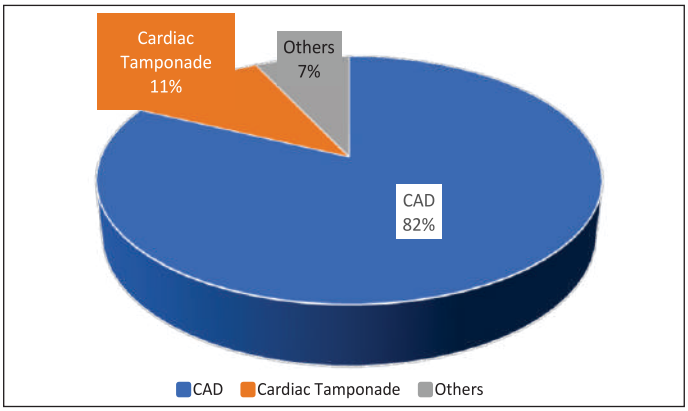

Figure 5. Types of pathology.

Table 3. Distribution of cases according to heart weight.

Heart weight	Frequency	Percentage
≤420	34	40.96
>420	49	59.04
Total	83	100.00

Table 4. Distribution of cases according to cardiomegaly.

Cardiomegaly	Frequency	Percentage
Yes	49	59.04
No	34	40.96
Total	83	100.00

Table 5. Distribution of heart disease deaths on the basis of types of pathology.

Types of pathology	Frequency	Percentage
CAD	68	81.93
Cardiac tamponade	9	10.84
Others	6	7.23
Total	83	100.00

Table 6. Comparison of sex distribution of heart disease in present study with previous studies.

Studies	Males (%)	Females (%)
Present study	92.0	8.0
Agravat et al.	73.7	26.3
Bhargava et al.	74.8	24.2
Murthy et al.	82.0	18.0
Padmavathi	66.5	33.5
Singh et al.	85.0	15.0
Tandon	66.5	35.5

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most concern is the early age of CHD deaths in the developing countries as compared to the developed countries, which will definitely lame the major work force of our nation.[7] Comparison with previous studies Males are more affected than females (Table 6), In the studies of Sudha et al.,[8] Virmani et al.[9] and Stary. et al.[10] CAD develop quite early in life starting from age 20 years onwards. In our study incidence of CAD was found to be 81.93 % which was comparable with the frequency given by Dr. Sunil et al. (49.02%),[11] Yazdi et al. (40%)[12] and Golshahi et al. (28.9%).[13] Likely the acquisition of several risk factors such as tobacco consumption, lack of physical activity, stress, unhealthy diet, and obesity.

Conclusion:

Coronary artery disease was the major contributory cause of heart disease deaths and most numbers of deaths were reported in the age group 40-49 followed by 50-59 years with male to female ratio 10:1. Hence this data shows us the quintessential requirement of intervention in the prevention of heart diseases .

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