

Coronary Artery Disease: An emerging Epidemic in Nepal

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Key words:

Coronary Artery Disease (CAD), Acute Myocardial Infarction (AMI), Epidemic,

Introduction:

Cardiovascular diseases (CVD) accounts for approximately 12 millions deaths annually and is the commonest cause of death globally, CVD is also the major contributor to the burden of premature morbidity and mortality and accounted for 85 millions disability adjusted (DALY) life years In 1990". It has been estimated that during the 25 years period from 1965-1990 mortality from coronary artery diseases (CAD) fell by 50% in Australia, Canada, France & US and 60% in Japan and Finland². The identification of major risk factors and effective control of them through population-based strategies of prevention were mainly responsible for this decline, The rise and subsequent decline in CAD epidemic in almost all industrialized countries in the later half of twentieth century has been well documented, but most of the developing countries are experiencing alarming increase of the disease.

Global Scenario:

CAD shows a declining trend in Western industrialized countries. CAD was a rare cause of death in the US at the turn of the century, accounting for <10% of all deaths in 1910, By 1965, the CAD mortality rate in US³ increased more than five fold to 55% of all deaths, with only Finland having higher rate, which was followed by sharp decline during the 25 years period from 1965-1990¹. Over the past three decades, the annual decline of CAD was 0.6% for prevalence, 1-2% for incidence and 2-4% for mortality⁴, CVD is the most common cause of death in Peoples Republic of China and Taiwan and the proportion of CVD death (particularly CAD) has almost tripled from 12% in 1957 to 36% in 1990⁵. Japan has had the lowest rate of CAD among all industrialized countries for the past 50 years. Despite its affluence & rapid urbanization, Japan has not only avoided the

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Current Scenario in Nepal:

CAD is one of the commonest Cardiovascular diseases seen by physicians in their hospital & private practice. Exact national data on incidence of CAD in Nepal is not available. Smoking, dyslipidaemia, hypertension, diabetes, physical inactivity are conventional risk factors⁸. Different studies have shown high prevalence of these risks factors. The prevalence of hypertension in population above the age of 20 in four different geographic regions of Nepal showed highest rate in urban Kathmandu (10%), followed by rural Terai, Parsauni (8.1%), rural hill Kathmandu, Bhadrabas (6%), and the mountain region, Jumla (5.3%)⁹. The incidence of hypertension for men and women in hilly rural village, Kotyand was 4.8% and 6.6% respectively and 14% and 8.1% respectively in suburban village Bhadrakali¹⁰, Diabetes constituted 4% of total medical In- patients and their number is increasing¹¹. A study done in different ecological regions of Nepal indicated that prevalence of tobacco use in adults was 68.4% in rural Kathmandu, 37.0% In urban Kathmandu, 54.7% in Teral region and 77.7% in mountain region. It Was interesting to note that in the mountain region, the female smoking rate was 71.6%, which is one of the highest reported in the world from anywhere¹².

Definite diagnosis of myocardial infarction was made in Nepal in 1945. A few cases were seen in 1950 and in the sixties the incidence started rising rapidly. In a study between 1960-1968 a total of 150 cases of myocardial infarction was reported from Kathmandu,

Nepal. Among them 89.9% were smokers, 28% were hypertensives, 14.3% diabetics and 25.4% had hypercholesteraemia. The male, female ratio was 6.5¹³. A study done 6 yrs ago using Rose Questionnaire & E.C.G. Showed the prevalence of CAD among civil servants of Kathmandu above 35 yrs of age to be 4.8%¹⁴. In 1990, the admission pattern of Teaching hospital, Kathmandu showed respiratory diseases to be leading cause followed by gastrointestinal and cardiovascular diseases. However, in 2000 cardiovascular diseases constituted 20% of medical admissions out of which 8% were CAD, The ten years data of teaching hospital among CAD patients showed 74% male and 26% female. Among them 82% were smokers, 40% hypertensives, 22% diabetics, 20% showed raised LDL and 10% showed raised triglyceride¹⁵. In National Heart Centre Kathmandu CAD (21.7%) was second most common cause of hospital admission following rheumatic heart disease (29.3%)¹⁶, Hence these hospital-based data show that the incidence of CAD is progressively increasing in Nepal with 6-fold increase in hospital admissions in the last 10 yrs.

Inter-Heart:

A multi centric global case control study designed to determine the strength of association between traditional and emerging risk factors and non-fatal AMI, the population attributable risk or burden of risk factors among each population group, whether the relative importance of risk factors varies across different populations and international variations in practice patterns of treatments for AMI has just been completed, Nepal has actively participated in this Inter-Heart Study and the results, which will be available during this year, is expected to give valuable insight.

Conclusion:

CAD is rapidly emerging as one of the major health problems in Nepal, The rapid change in lifestyle, unhealthy habits (tobacco use, sedentary life style etc), is considered to be responsible for the increase. Despite decrease in cardiovascular disease mortality in developed countries, substantial increases have been experienced in developing countries. Hence large-scale epidemiological study should be carried out to determine the incidence & prevalence of CAD in Nepal and to find out the important risk factors and population based and high-risk strategies for primary and secondary prevention should be implemented.

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