

In this issue

Heart-rending signals

Heart attacks are caused by reduction in blood supply as a result of occlusion of the lumen of coronary arteries which supply blood to the heart. Coronary artery disease, in more than 90% of instances, is the consequence of fatty deposits and degeneration in the vessel wall. Atherosclerotic coronary artery disease is often associated with an affluent lifestyle, characterized by a high intake of calories and fatty foods, inadequate physical exercise, chronic smoking, and increased mental stress. Obviously, coronary heart disease (CHD) ranks at the top among the major causes of mortality in adult population in developed countries.

Almost a decade ago, a survey conducted among south Asian populations settled in the United Kingdom revealed a high rate and early occurrence of CHD in Indian immigrants. A surprising finding in the study was the lack of correlation between high risk in south Asians and well-known risk factors such as smoking, high blood pressure, elevated blood cholesterol and clotting elements in blood. The clinical picture in Indians was not different when compared with that of Europeans. However, the extent and severity of lesions in coronary arteries were reported to be greater.

Subsequent studies in the United Kingdom and the United States revealed that immigrant Indians have a 3–4 times higher rate of CHD than the native population as well as other ethnic groups. Mortality from CHD in Asian Indians living in Britain is 38% higher in men and 43% higher in women when compared to Europeans. The increased risk is explained in part by the tendency for Indians to have the fat deposited around the midriff (abdominal obesity), increased prevalence of diabetes mellitus, lesser amounts of protective and

'good' cholesterol and higher levels of a factor (plasminogen activator inhibitor-1) which interferes with normal mechanisms of lysis of blood clots. The general consensus is that Indians have a genetic predisposition for coronary artery disease. Cardiologists warn that as migration from rural to urban areas increases and Indians adopt a westernized lifestyle, there is the ominous chance of an epidemic of cardiovascular disease in India, specially among the urban population. Deaths from cardiovascular disease in India are currently equal to that in all developed countries combined together. An estimate by World Health Organization predicts that mortality due to cardiovascular disease would double by 2015.

This issue features seven reports on coronary artery disease in Indians. J. Dhawan and S. Petkar (page 1060) assess the magnitude of the problem of CHD in south Asians in the UK. They also examine the differences between south Asians and other ethnic groups in the clinical presentation of the disease as well as in the association with known risk factors. S. Krishnaswami (page 1064) analyses the profile of patients and coronary risk factors seen over a period of thirty five years at a tertiary care facility. He observes a steady increase in the number of patients being admitted for CHD when compared to other heart problems. The differences in the prevalence and risk factors for CAD between rural and urban areas of north India are portrayed by S. L. Chadha (page 1069). Rajeev Gupta and V. P. Gupta (page 1074) present what they learnt from a community-based epidemiological study in western India. Both the surveys reveal a higher prevalence of CHD in the urban population. Hypertension, diabetes mellitus and obesity are also more prevalent in the urban areas. D. Mohanty *et al.* (page 1078) record the prevalence of mu-

tation in the gene coding for coagulation factor V in young Indian patients with myocardial infarction. Enas A. Enas apprises (page 1081) that Asian Indians in the United States have considerably higher rates of incidence, prevalence and mortality from CHD than the general population. He focuses on the paradox of the association of high rates of CHD among Asian Indians with low rates of conventional risk factors. He feels that conventional approaches to prevention and treatment may be insufficient to reduce the burden of CHD in Asian Indians, since intense modification of lifestyle has not reduced the high rates of CHD in Indians in the United States. D. Bhatnagar (page 1087) discusses the possible causative factors for increased risk of coronary artery disease in South Asians. He critically scans the evidences for the hypothesis that Indians have a genetic predisposition for CAD and draws attention to the unanswered questions in the puzzle of increased risk for CHD in Indians.

There is compelling evidence which suggests that immigrant Indians develop severe atherosclerotic coronary artery disease, 5 to 10 years earlier than other populations. This is despite the low prevalence of conventional risk factors among them. Whether the same is true for Indians living in India needs to be confirmed. There is a paucity of large-scale community-based epidemiological studies of CHD in Indians living in India, particularly on incidence of CHD and investigations which address the role of genetics and risk factors such as infections. Nevertheless, there is no reason to delay implementation of preventive strategies and advocate lifestyle changes for the young and the middle-aged urban population of India.

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