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ORIGINAL TITLE	Some aspects of coronary atherosclerosis in Sri Lanka
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MAIN HEADING	CORONARY DISEASE
ABSTRACT	<p>Coronary heart disease is the second most important cause of morbidity and the number one cause of mortality in Sri Lanka. (Registrar General 1978). The observations on the aetiology and pathogenesis of coronary heart disease accumulated by research forms the scientific basis for the prevention of coronary atherosclerosis. In Sri Lanka information hitherto available on coronary heart disease is limited. Therefore it was decided to gather additional information and clarification regarding certain aspects of coronary atherosclerosis in Sri Lankans. An autopsy study, A clinical study of coronary risk profile of adults, A study of precursors of coronary atherosclerosis in children and A study of prevalence and risk profile of coronary heart disease in Veddhas were done to achieve this objective. An autopsy study of coronary atherosclerosis was performed on 170 autopsies. The extent and prevalence of coronary atherosclerosis were determined by grading atherosclerotic lesions by naked eye examinations. The prevalence and extent of atherosclerotic lesions increased with age. The development of different types of atherosclerotic lesions (fatty streaks, fibrous plaques and complicated lesions) occurs in several stages. until the age of 30 years fatty streaks and fibrous plaques were the only type of lesion seen. Fatty streaks predominated before the age of 30 years. After 30 years there was a rapid increase in the prevalence and extent of fibrous plaque. complicated lesions and coronary artery stenosis appeared with rising frequency after the age of 40 years. After 60 years of age nearly 50 per cent of cases showed calcification of atherosclerotic lesions. The extent of total amount of atherosclerosis in the average coronary artery was 19 per cent. The coronary risk profile was studied in 403 patients with coronary heart disease. Coronary risk factors studied, were age, sex, ethnic type, hypertension, cigarette smoking, serum cholesterol, serum triglycerides, serum lipoproteins, physical inactivity, diabetes mellitus, family history and obesity. Peak levels in the incidence of coronary heart disease fall in the age range 50-60 years. Females are much less commonly affected at all ages. Hypertension is significantly more prevalent in the cohort with coronary heart disease (29per cent) compared to controls in corresponding age cohort (15per cent). There is a significantly higher incidence of smoking in the cohort with coronary heart disease (68per cent) than in controls in corresponding age cohort (58per cent). The specific risk factor combinations suggest that those in which smoking is one of the. risk factors may carry a greater degree of risk than combinations</p>

which do not include it. There is a significantly higher incidence of hypercholesterolaemia in the 20-70 age cohort with coronary heart disease when compared to a corresponding age cohort. However, the mean serum cholesterol level in patients in 20-50 age cohort with coronary heart disease (5.59 ± 1.21 mmol/l) is not significantly higher than in controls in corresponding age cohort (5.39 ± 1.09 mmol/l). The mean level of serum triglycerides in 20-59 age cohort of healthy males was (1.4 ± 0.84 mmol/l). There was no significant difference in the mean triglyceride concentration in 30-50 age cohort with coronary heart disease (1.47 ± 0.78 mmol/l) when compared with control group (1.2 ± 0.71 mmol/l). The incidence of hyperlipidaemia in patients with coronary heart disease was 35 per cent. Types IIa, IIb and IV were the commonest seen. The mean serum high density lipoprotein cholesterol concentration in Sri Lankans appear to be low compared to those of western countries. Serum high density lipoprotein appear to have a protective effect on coronary heart disease. The mean serum high density lipoprotein cholesterol concentration in a 30-50 age cohort with coronary heart disease (0.69 ± 0.12 mmol/l), is significantly lower than in controls in corresponding age cohort (0.86 ± 0.25 mmol/l). There was no statistically significant difference in the low density lipoprotein levels in coronary heart disease patients compared to controls. No definite conclusion regarding the coronary risk of diabetes mellitus, physical inactivity and obesity could be made as those parameters were not studied in a control group. About one tenth of patients with coronary heart disease had none of the risk factors that were investigated. Precursors of coronary atherosclerosis were studied in 819 school children (between 11 and 19 years of age). Height and weight are determinants of blood pressure. The average annual increase of systolic blood pressure in boys and girls were 2.5 mmHg and 1.5 mmHg respectively. The average annual increase of diastolic blood pressure was 1.0 mmHg in both sexes. A pubertal acceleration of the rate of systolic blood pressure rise was observed between 11-14 years. The mean serum cholesterol level for male and female children 13-17 years of age is 3.94 ± 0.47 mmol/l and 3.81 ± 0.55 mmol/l respectively. The mean serum high density lipoprotein concentration for male and female children 13-17 years of age is 0.87 mmol/l and 0.9 mmol/l respectively. The overall prevalence of smoking in school children 11-19 years of age was 10.6 per cent. The prevalence and risk factors of coronary heart disease were studied in 98 per cent of the population of Veddhas at Kandeganvilla and 100 per cent of the population of Veddhas in Dambana. Coronary heart disease appears to be absent or rare in Veddhas. The prevalence of hypertension in Veddhas (5.7 per cent) is low compared to the Sinhalese (12 per cent). Prevalence of smoking in Veddhas is also low (39 per cent) compared to the Sinhalese (60 per cent). Veddhas are shorter and leaner than the Sinhalese and obesity is not seen among them. There is no significant difference in the serum concentration of cholesterol and triglycerides in Veddhas

(5.85 \pm 1.15 mmol/l and 1.99 \pm 0.92 mmol/l respectively) compared to Sinhalese controls in a corresponding age group (5.43 \pm 1.04 mmol/l and 1.48 \pm 0.8 mmol/l respectively). Serum high density lipoprotein level in Veddhas was 29.68 \pm 7.22 per cent and in a control group of Sinhalese 20.95 \pm 6.35 per cent. The serum high density lipoprotein level was statistically significantly higher in Veddhas than in Sinhalese (P < 0.001). Serum low density lipoprotein level in Veddhas (34.16 \pm 13.9 per cent) was significantly lower (P < 0.001) when compared to Sinhalese (22.5 \pm 7.18 per cent). The majority of Veddhas have a very high level of habitual physical activity. No definite conclusion regarding the behaviour pattern and diet of Veddhas in the context of coronary risk profile could be made as these parameters were not studied in detail.