A-11: Observations on the lipid profiles in a cohort of Sri Lankan adult males

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There is an increase in awareness among the general public to assess their lipid status because of the damaging effect of high serum cholesterol on human health. In order to fulfil this growing need, facilities were established in the laboratory not only for lipid profile estimation on subjects but also to assess their dietary habits and to carry out anthropometric measurements with a view to advice them on diet therapy for hyperlipidaemia. This enabled the collection of data from a large number of subjects and the laboratory results of apparently healthy male individuals were analysed. The outcome of this exercise will be of value to clinicians.

Fasting (14 h) blood samples obtained from 73 apparently healthy adult males were used for the estimation of total cholesterol (TC), high density lipoprotein cholesterol (HDL-C) in supernatant obtained after polyethylene glycol precipitation and triacylglycerol (TAG) by enzymatic methods using assay kits obtained from Randox Laboratories, U.K. Low density lipoprotein cholesterol (LDL-C) was calculated using Friedwald's formula. The laboratory data was divided into 2 groups based on whether there is a family history of myocardial infarction, diabetes and hypertension or none, when it was observed that the TC concentration exceeded 6.4 mmol/l in some individuals. The group with the family history included only the subjects with family history in first degree relatives.

For individuals without a family history(n=29), the ranges for TC, HDL-C, LDL-C, TAG and TC:HDL-C were 3.65-6.26 mmol/l, 0.85-2.46 mmol/l, 2.0-4.45 mmol/l, 0.41-1.73 mmol/l, and 2.1-5.4 respectively. In subjects with a family history (n=44), the above parameters were 3.62-8.25 mmol/l, 0.65-1.96 mmol/l, 2.0-6.23 mmol/l 0.68-4.25 mmol/l and 2.6-10.4 respectively.

When the results were divided into 2 groups according to the age as group 1 (20-40 years) and group 2 (40-60 years) and analysed, the mean TC, LDL-C, TAG concentrations and TC:HDL-C ratio in subjects with a family history

in both age groups were higher than in those without a family history. The higher values observed were statistically significant ($p < 0.05$) only in group 2, but with the exception of LDL-C. The mean HDL-C concentration was lower in subjects with a family history and this was observed to be significantly different ($p < 0.05$) from those without a family history only in group 2.

A state of hyperlipidaemia exists in some of the apparently healthy individuals but with a family history of myocardial infarction, diabetes and hypertension. In the light of this observation, it is proposed that in attempts to establish normal reference concentrations for populations, subjects with family histories should be carefully identified and their values excluded. The range derived for subjects without a family history thus will realistically reflect the normal values for the serum lipid concentrations. These results by no means provide normal reference values of the general population and therefore studies should be carried out in random samples, representative of the general population.