

**RESTRICTION FRAGMENT LENGTH POLYMORPHISM OF THE
APO A1 GENE AND ITS RELATION TO PLASMA
HIGH DENSITY LIPOPROTEINS IN SRI LANKANS**

Shanthy Mendis and J. Shephard*

Faculty of Medicine, University of Peradeniya

*Glasgow Royal Infirmary, Glasgow, UK.

Low levels of plasma high density lipoprotein (HDL) and apolipoprotein A1 (apo A1) are strong risk factors for the development of coronary disease. We have examined the possibility that the SstI polymorphic site linked to the apo A1 gene may be associated with variation in plasma HDL in Sri Lankans.

DNA was extracted from blood samples of 95 healthy males aged 37-65 years, digested with restriction enzyme SstI and Southern blood hybridisation carried out according to standard methods (1). The probe for detecting the SstI polymorphism was 2.2 kb PstI genomic fragment. An enzyme colorimetric test (Cat No. 816302 Boehringer Mannheim GmbH) was used to measure HDL cholesterol after precipitation of plasma low density lipoproteins and very low density lipoproteins.

The frequency of the S2 allele (0.37) in healthy Sri Lankans were much higher than that reported for caucasian populations (2). The data was further analysed by ordering HDL cholesterol levels into tertiles. Table 1 shows the frequency of the common allele (S1) for each tertile. There was no statistically significant difference in allele frequencies in the three groups.

Table 1. Frequency of common allele (S1) of the SstI polymorphism of the apo A1 gene in high density lipoprotein tertiles in healthy Sri Lankans.

Tertile	Range HDL (mM/l)	Frequency of allele
Lower	0.50-0.98	0.66
Middle	0.98-1.22	0.57
Higher	1.22-1.75	0.71

- References: 1. Kunkel, L.M., Smith, K.D., Boyer, S.J. et al. Analysis of human Y chromosome-specific reiterated DNA in chromosome variants. Proc. Natl. Acad. Sci. USA. 1977;74:1245.
2. Morris, S.W. and Price, W.H. DNA sequence polymorphisms in the apo A1/C111 gene cluster. Lancet 1985 2. 1127.