

Markers of endothelial dysfunction in young non-overweight women - effect of serum lipids, body measures and nutrition

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ABSTRACT

Purpose: Since endothelial dysfunction can develop early in the adulthood, the purpose of the study was to determine how serum lipids, body measures and dietary habits affect serum markers of vascular activation in young women.

Materials and methods: Twenty five healthy women, aged 19-22 years, were enrolled in the study. Serum lipids profile (total cholesterol, HDL-cholesterol, triglycerides) was assayed with laboratory test kits. Concentrations of sICAM-1, sVCAM-1 and E-selectin were determined with the ELISA technique. Anthropometric measurements were taken including skinfold thickness and waist circumference. Food consumption data were collected using 3 repeats of 24-hour dietary recalls. Dietary habits of the women were assessed with a 9-point alternate Mediterranean Diet score (a-MED).

Results: Sixty eight percent of the subjects had their HDL-cholesterol levels below the desirable concentration, 20% had LDL-cholesterol elevated, and 32% demonstrated increased total triacylglycerols (TAG). The levels of serum TAG >199 mg/dL were associated with a significant rise in the VCAM-1 concentration. Dietary wholegrain products seem to reduce the serum E-selectin.

Conclusions: The results suggest that young women of normal body mass, but demonstrating increased levels of serum TAG, may be at risk of developing endothelial dysfunction. An implementation of the wholegrain products consumption into their dietary practices would possibly be of health benefit.

Key words: Endothelial dysfunction, cellular adhesion molecules, lipids, nutrition, body measures, women.
