

## Effect on hematologic risk factors for coronary heart disease of a cholesterol reducing diet.

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### Abstract:

**Background:** A dietary portfolio of cholesterol-lowering ingredients has proved effective in reducing serum cholesterol. However, it is not known whether this dietary combination will also affect hematologic risk factors for coronary heart disease (CHD). Reductions in hematocrit and polymorphonuclear leukocytes have been reported to improve cardiovascular risk. We, therefore, report changes in hematological indices, which have been linked to cardiovascular health, in a 1-year assessment of subjects taking an effective dietary combination (portfolio) of cholesterol-lowering foods.

**Methods:** For 12 months, 66 hyperlipidemic subjects were prescribed diets high in plant sterols (1.0 g/1000 kcal), soy protein (22.5 g/1000 kcal), viscous fibers (10 g/1000kcal) and almonds (23 g/1000kcal). Fifty-five subjects completed the study.

**Results:** Over the 1 year, data on completers indicated small but significant reductions in hemoglobin ( $\downarrow 1.57 \pm 0.6$  g/l,  $P = 0.013$ ), hematocrit ( $\downarrow 0.0077 \pm 0.002$  l/l,  $P < 0.001$ ), red cell number ( $\downarrow 0.77 \pm 0.02 \times 10^9$ /l,  $P < 0.001$ ) and neutrophils ( $\downarrow 0.347 \pm 0.13 \times 10^9$ /l,  $P = 0.014$ ). Mean platelet volume was also increased ( $0.167 \pm 0.07$  fl,  $P = 0.033$ ). The increase in red cell osmotic fragility ( $0.057 \pm 0.03$  g/l,  $P = 0.107$ ) did not reach significance.

**Conclusions:** These small changes in hematological indices after a cholesterol-lowering diet are in the direction, which would be predicted to reduce CHD risk. Further research is needed to clarify whether the changes observed will contribute directly or indirectly to cardiovascular benefits beyond those expected from reductions previously seen in serum lipids and blood pressure.