Omega-3 DHA improves blood lipid levels

10/08/2007 - **Men with high blood levels of triglycerides, a risk factor for artery hardening, may benefit from supplements of the omega-3 docosahexaenoic acid (DHA), says a new study.**

Omega-3 has been identified as one of the super-nutrients taking the food and supplements industry by storm. Much of its healthy reputation that is seeping into consumer consciousness is based largely on evidence that it can aid cognitive function and may help protect the heart against cardiovascular disease.

The results of the new study, published in this month's *American Journal of Clinical Nutrition*, reflect well for algae-derived DHA marketers, such as the manufacturer of the LifesDHA brand used in the trials, Martek Biosciences. In other areas, such as omega-3 for cognitive development - and in particular its use in infant formulas - fish oil suppliers have played up the DHA + EPA content of their ingredients on the grounds that it is closer to the lipid profile found in the human brain and breast milk.

The researchers, from University of California Davis, Veterans Affairs Northern California Health Care System, and Agricultural Research Service (US Department of Agriculture), recruited 34 men with hyperrtriglyceridaemia (age range 39 to 66) and randomly assigned them to receive with DHA supplements (3 grams per day) or olive oil placebo for 90 days.

High triglyceride levels (hypertriglyceridaemia) have been linked to an increased risk of hardening of the arteries (atherosclerosis), a major risk factor for cardiovascular disease (CVD) - the causes almost 50 per cent of deaths in Europe, and is reported to cost the EU economy about €169bn ($202bn) per year.

The double-blind, randomized, placebo-controlled parallel study showed that supplementation with DHA for 45 days resulted in decreased fasting levels of triacylglycerol (24 per cent), very low density lipoproteins (92 per cent), and intermediate-density lipoproteins (53 per cent).

However, DHA was associated with increased levels of LDL cholesterol (by 12.6 per cent), and large LDL particles (120 per cent).

The researchers reported that similar changes were also observed when blood samples were measured after eating (postprandial), except increases in LDL cholesterol were no longer significant. No further changes were observed after the initial 45 day intervention, while placebo did not alter any of the measures taken.

"DHA supplementation may improve cardiovascular health by lowering concentrations of triacylglycerols and small, dense LDL particles," concluded the researchers.

Omega-3 fatty acids have been linked to a wide-range of health benefits, including reduced risk of cardiovascular disease (CVD) and certain cancers, good development of a baby during pregnancy, joint health, and improved behaviour and mood.