

Maximum Wellness 5.27.2020
COQ-10 Improves Endothelial Function &
Reduces Cardiovascular Disease Risk

Dyslipidemia, the characteristic change of one or more blood lipid (fat) components – including total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), triglycerides (Trig), and high-density lipoprotein cholesterol (HDL-C) – is an established risk factor for cardiovascular disease (CVD).

According to Italian research – Ubiquinol (co-enzyme Q-10) Ameliorates Endothelial Dysfunction in Subjects with Mild-to-Moderate Dyslipidemia: A Randomized Clinical Trial – dyslipidemia, “has a prevalence of 38.6% among individuals aged 40 years and above, and the alteration of TC, HDL-C, or non-HDL-C has been reported in one out of five US children and adolescents aged 8–17 years.”

Stanfordhealthcare.org says, “endothelial dysfunction is a type of non-obstructive coronary artery disease (CAD) in which there are no heart artery blockages, but the large blood vessels on the heart’s surface constrict (narrow) instead of dilating (opening).”

This condition, comments Stanford, “tends to affect more women than men and causes chronic chest pain. Because most clinics do not diagnose or treat endothelial dysfunction, people with this condition may feel frustrated and hopeless.”

The vascular endothelium is critical in maintaining vascular balance – capable of sensing alterations in vessel walls and releasing a variety of autocrine (a substance secreted by a cell on its surface structure) and paracrine (stimulate cell regeneration) substances to protect the cell wall integrity.

COQ-10 and its bioactive form ubiquinol, exert antioxidant protection by preventing the oxidation of LDL-C, while also improving endothelium-dependent vasodilation (opening).

“CoQ10 has improved endothelium-dependent vasodilation, as measured by FMD (flow mediated dilation), in patients with type 2 diabetes, or coronary artery disease,” notes the study authors.

The Italian researchers sought to determine, if an 8-week ubiquinol supplementation period enhances endothelium-dependent vasodilation in adults with moderate, untreated dyslipidemia and without evidence of CVD.

The primary study outcome was to measure the effect of COQ-10 (ubiquinol) on FMD of an artery, when blood flow increases or not in that artery.

A secondary outcome included the assessment FMD and changes in COQ-10 status at weeks 4 and 8 – along with changes in vasodilators nitrite and nitrate levels, and LDL-C oxidation at week 8.

The Italian's study participants included fifty-one subjects with low-density lipoprotein (LDL) cholesterol levels of 130–200 mg/dL, not taking statins or other lipid lowering treatments, moderate (2.5%–6.0%) endothelial dysfunction, as measured by FMD of the brachial artery, and no clinical signs of cardiovascular disease, who were randomized to receive either ubiquinol (200 or 100 mg/day) or placebo for 8 weeks.

At the study completion, it was determined that, “ubiquinol significantly ameliorated (make more acceptable) dyslipidemia-related endothelial dysfunction. This effect was strongly related to increased nitric oxide bioavailability and was partly mediated by enhanced LDL antioxidant protection.”

The take-away message is clear that COQ-10 is another option, with medical supervision, in the non-pharmaceutical tool kit to help address, along with diet and exercise, the negative health effects of dyslipidemia.

