Cholesterol, Chiropractic and Cardiovascular Health

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Chiropractors are developing an interest in cholesterol levels, medications, and vascular issues since in the past there have been implications of a relationship between cervical manipulations and cerebrovascular arterial (CVA) events. Apparently current research has found that the purported relationship to be so rare that any factors associated with chiropractic manipulation and CVA events are more coincidental than causal. Therefore the chiropractic profession has been focusing on how to be aware of a CVA event in progress and how to prevent such an occurrence, leads to the need to understand the importance of the current relationship between cholesterol levels and vascular events.

In one study that analyzed 61 prospective observational studies they failed to find any association of total cholesterol (TC) with stroke mortality. Ultimately the total cholesterol (TC)/HDL cholesterol ratio was found to be more predictive of ischemic heart disease (IHD) mortality than total or non-HDL cholesterol. They also found a positive relation between cholesterol and stroke only in middle age and only in those with below-average blood pressure (BP); at older ages (70-89), and particularly for those with systolic BP greater than 145 mm Hg, total cholesterol was negatively related to hemorrhagic and total stroke mortality.

In the Ezetimibe (Zetia) and Simvastatin (Zocor) in Hypercholesterolemia Enhances Atherosclerosis Regression (ENHANCE) study they found in their trial that patients who had an LDL cholesterol level of 178 mg per deciliter (4.60 mmol per liter) while receiving combination therapy with simvastatin plus ezetimibe, the carotid intima-media thickness progressed by 0.0111 mm. With a similar level of LDL cholesterol (167 mg per deciliter [4.32 mmol per liter]) during therapy with 80 mg of atorvastatin (Lipitor) in the ASAP study, intima-media thickness regressed substantially, by 0.031 mm.

However it has been questioned, "Does the ENHANCE study prove that ezetimibe provides no benefit when added to statin therapy or, for that matter, as monotherapy? For now, the study's findings are a red flag but not a black box."

"The results of ongoing trials, such as the Improved Reduction of Outcomes: Vytorin Efficacy International Trial [IMPROVE-IT]), which will not be available until at least 2011, are expected not only to help define the role of ezetimibe in the treatment of hypercholesterolemia but also to provide insight into the biology of LDL cholesterol lowering and the use of carotid intima-media thickness as a surrogate indicator of coronary events.

"Until such data are available, it seems prudent to encourage patients whose LDL cholesterol levels remain elevated despite treatment with an optimal dose of a statin to redouble their efforts at dietary control and regular exercise. Niacin, fibrates, and resins should be considered when diet, exercise, and a statin have failed to achieve the target, with ezetimibe reserved for patients who cannot tolerate these agents."

The direction of vascular health and prevention seems to be towards issues of vascular inflammation and TC/HDL ratios and not so much on lowering total cholesterol levels. Therefore some markers such as homocysteine, c-reactive protein and clinical indicators of precursors of vascular inflammatory processes may offer a window into a patient's potential cardiovascular health. There is even some suggestion that the positive affects of statin medications are associated
with their ability to reduce vascular inflammation processes \(^\text{16}\) and not related to their affect on cholesterol. So far that leaves us best with interventions that offer low risk such as exercise \(^\text{17,18}\), low inflammatory diets \(^\text{19}\), and increasing omega three supplementation \(^\text{20}\) all of which would seem to be the recommended first line in treatment and prevention of possible vascular events.

References


