'Healthy' sterols may pose health risk

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Plant sterols have been touted as an effective way to lower cholesterol and reduce the risk of heart disease. However, a research study in the July JLR has uncovered that these compounds do have their own risks, as they can accumulate in heart valves and lead to stenosis.

Aortic valve stenosis (AS) results from cholesterol accumulation in the valve between the left ventricle and aorta; this impedes the flow of blood and puts extra pressure on the heart. About 2% of individuals over 65 (and over 5% of those over 85) have AS, and as the population ages, it is becoming an increasing problem.

Plant sterols can block the absorption of dietary cholesterol into the body, and as such high vegetable diets and/or plant sterol supplements are often used to alleviate high cholesterol. However, although plant sterols themselves are poorly absorbed, they can enter the body, so Satu Helske and colleagues examined whether plant sterols can also accumulate in aortic valves.

They collected blood samples from 82 patients with severe AS and aortic valves from 21 individuals undergoing valve surgery, along with respective controls. They observed that non-cholesterol sterols, including plant sterols, can accumulate in aortic valves, and at levels that directly related to their blood concentration.

These findings suggest that beneficial plant sterols may end up becoming a risk factor for AS, although the researchers will need to conduct more studies, such as whether dietary sterols and sterol supplements produce

different effects.

Source: American Society for Biochemistry and Molecular Biology

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