Health News from 3Care Therapeutics

Review of human studies supports omega-3 for liver health

A review of four human studies found that omega-3 can improve liver health and function, and increase insulin sensitivity in people suffering from fatty liver, a condition that is usually symptomless but said to increase the risk for liver inflammation, and that may ultimately result in liver failure.

Fatty liver is reportedly on the rise in the US, affecting between one quarter and one half of all Americans. The prevalence if non-alcoholic fatty liver disease has increased in line with the ever increasing obesity epidemic.

Led by Dr Gail Masterton from the Royal Infirmary of Edinburgh in Scotland, the reviewers report their findings in the journal Alimentary Pharmacology & Therapeutics.

Previous studies have demonstrated that omega-3 offers protective benefits against obesity-related conditions. A considerable number of studies already support the benefits of the omega-3 fatty acids for cardiovascular health, and cognitive health. Other areas of potential for the fatty acids include mood and behaviour, eye health, cancer risk reduction, and improved infant development.

It is biologically plausible that omega-3 fatty acids may improve liver health, said the reviewers because "they have several potential mechanisms of action, the most important being the ability to alter hepatic gene expression, thereby switching intracellular metabolism from lipogenesis and storage to fatty acid oxidation and catabolism. The later physiological state would prevent fat deposits in the liver and potentially burn up existing fat stores.

"There is also evidence that omega-3 improves insulin sensitivity, are anti-inflammatory and reduce TNF levels so offering several potential therapeutic mechanisms," they added.

"To date the trials have all been open label and none have employed a prospective, randomised, blinded, placebo controlled, adequately powered trial methodology to submit these promising preliminary findings to proper scientific rigour," wrote Masterton and her co-workers. "Such studies are now urgently required," the researchers added.

Source: Alimentary Pharmacology & Therapeutics
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"Review article: omega-3 fatty acids - a promising novel therapy for non-alcoholic fatty liver disease"
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Vitamin D deficiency may contribute to higher risk of death among African-Americans compared to whites

Vitamin D deficiency may contribute to a higher number of heart and stroke-related deaths among black Americans compared to whites, according to a University of Rochester Medical Center study.

The journal *Annals of Family Medicine* is publishing the study in the January-February edition, which goes online Jan. 11, 2010.

Researchers sought to understand the well-documented disparity between blacks and whites in cardiovascular deaths. They turned to vitamin D because growing evidence links low serum levels of D to many serious illnesses including diabetes, hypertension, kidney and heart disease.

Lead author Kevin Fiscella, M.D., said a complex host of genetic and lifestyle factors among blacks may explain why this population group has lower vitamin D levels across the lifespan than other races.

People get vitamin D through their diets, sun exposure, and oral supplements. Genetic factors common to blacks sometimes preclude vitamin D absorption, such as a higher incidence of lactose intolerance, which can eliminate vitamin-D fortified milk from the diet, and darker skin pigment that significantly reduces vitamin D synthesis.

"Therefore, our study suggests that the next step would be to intervene to boost vitamin D levels safely, with supplements," said Fiscella, a national expert on disparities in health care and a professor of Family Medicine and Community and Preventive Medicine at URMC.

With funding through The National Heart Lung and Blood Institute, Fiscella and colleagues studied a sample of more than 15,000 American adults. The data included measurements of blood levels of vitamin D and death rates due to cardiovascular disease. Researchers also looked at other factors that contribute to heart health, such as body mass index, smoking status and levels of C-reactive protein.

Overall, the analysis showed that, as expected, a vitamin D deficiency was associated with higher rates of death among all people in the sample. In fact, those adults with the worst deficiency had a 40 percent higher risk of death from cardiac illness. This suggests that vitamin D may be a modifiable, independent risk factor for heart disease, Fiscella said.

Most striking, however, was that when researchers adjusted the statistics to look at race, blacks had a 38 percent higher risk of death than whites. As vitamin D levels rose, however, the risk of death was reduced. The same was true when researchers analyzed the effect of poverty on cardiovascular death rates among blacks, which suggests that vitamin D deficiency and poverty each exert separate risk factors, the study said.

Vitamin D is metabolized in the liver and converted to 25 hydroxyvitamin D or 25(OH) D, the form used to determine a person's status through a blood test. Deficiency is usually defined by levels of less than 20 nanograms per milliliter; 30 ng/ml is viewed as sufficient. The mean blood level in the study sample was 29.5 ng/ml.

Studies show that supplementation is the best way to correct a vitamin D deficiency.

Source: University of Rochester Medical Center