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Perilla Oil

A Source of Heart-Healthy Alpha-Linolenic Acid

Back in the 1970s, researchers studying Eskimos were surprised to learn that it was possible to eat a high-fat diet without developing coronary artery disease. As their research continued, the scientists were startled to learn that consuming fats could actually protect the heart and arteries. But not just any fat would do—only the omega-3 fatty acids, found primarily in fish, helped reduce the risk of cardiovascular disease, lower blood triglyceride levels, and lessen the odds of suffering a heart attack or stroke.

Fatty acids are the “building blocks” of fat, just as amino acids are the raw materials of protein. Of the several different omega-3 fatty acids, the best known are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). People often refer to these two as fish oil, as they are the primary omega-3s found in fish. Other omega-3s include alpha-linolenic acid (ALA), found in vegetables and oils. Because the human body does not manufacture omega-3 fatty acids, they must be obtained from the diet or supplements.

Sources of ALA

ALA is found in green leafy vegetables, walnuts, Brazil nuts, canola oil, and flaxseed oil. Once absorbed in the body, a portion of the ALA is converted into EPA, DHA, and other substances, many of which are incorporated in cell membranes. There, they are believed to help control inflammation, reduce the likelihood of platelets inappropriately sticking together to form blood clots, and suppress the duplication of certain cancer cells.[1]

In the past several years, a new source of ALA called perilla oil has gained recognition. Derived from the seeds of the Perilla frutescens plant found in India, Burma, Japan, and China, perilla oil is, by composition, 50-60% alpha-linolenic acid. Perilla oil and ALA have begun to generate excitement as more studies report that a diet rich in ALA may be helpful in preventing heart disease, strokes, and arthritis,[2] and that perilla oil may help reduce the risk of colon cancer, breast cancer, colitis, obesity, and asthma.

Perilla Oil and Colon Cancer

Colorectal cancer—cancer of the colon and rectum—is a common, deadly form of cancer. The American Cancer Society estimates that in 2003, approximately 105,000 new cases of colon cancer were diagnosed, while another 57,000 people died of colon and rectal cancer.[3] Despite improvements in standard medical treatment, this cancer is still a major killer.

Eager to find a new approach to fighting the disease, Japanese researchers examined how perilla oil affects colon cancer in laboratory animals.[4] One group of animals was fed a diet that was high in perilla oil, one high in safflower oil, and two had different blends of the oils. At the end of the study, the animals’ tissues were examined for the presence of the precancerous cells. According to the researchers, the results “suggest that perilla oil, even in small amounts, suppresses the development of aberrant crypt foci, and is therefore a possible preventive agent in the early stages of colon carcinogenesis.”

Other animal studies support the idea that perilla oil helps to reduce the risk of developing colon cancer.[5,6]

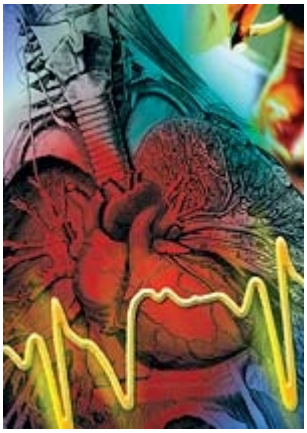
More research is needed, as these studies represent only the first steps toward developing ways to prevent and treat colon cancer. Nevertheless, this preliminary research has scientists excited about the possibility of finding a gentle yet effective way to stop this killer cancer.

ALA, Inflammation, and Heart Disease

The famous Mediterranean diet, high in ALA, is believed to reduce the risk of coronary artery disease and its resulting heart attacks and strokes. This hypothesis is supported by studies that correlate higher levels of ALA in the diet with a reduced risk of suffering a heart attack.[7,8,9] And in the Lyon Study, the ALA-rich Mediterranean diet proved to be “more efficient” at preventing second heart attacks than the standard healthy-heart diets recommended to heart patients.[10]

It would be reasonable to conclude that ALA protects against cardiovascular disease by reducing triglyceride levels, but a number of studies suggest that this may not be the case—or may not entirely be the case.[11] Various theories based on ALA's other properties have been advanced to explain how the fatty acid protects the cardiovascular system. These include omega-3 fatty acids' ability to:

- guard against an irregular heartbeat (ventricular fibrillation)[12,13]
- help the arteries contract and relax on signal[14]
- inhibit platelets from forming blood clots.[15]



A group of Greek researchers pursued yet another theory, which linked inflammation to heart attacks. Long-standing inflammation in the body is believed to trigger damage to the cardiovascular system and prompt heart attacks. This problem might arise in men with long-standing prostate infections, for example. In 2002, the Greek scientists gathered together 76 men suffering from elevated blood cholesterol (dyslipidemia) to see whether ALA could reduce their inflammation.[16]

The men, whose average age was 51, ate a typical Greek diet and were randomly given either linseed oil or safflower oil every day. (Linseed oil is rich in ALA, safflower oil is not.) After they had been taking the oils for three months, their blood was checked for C-reactive protein and other indicators of inflammation, as well as for blood fats. The researchers found a "significant reduction in inflammatory indices" among those who had been consuming ALA. They believe this may be the mechanism by which ALA guards the cardiovascular system.

The volunteers in the Greek study consumed more ALA than is found in the typical diet. To achieve the same levels, one would need a supplement such as ALA-rich perilla oil.

Research Suggests Other Benefits

Although cancer and heart disease are the focus of perilla oil research, other intriguing studies point to ways in which the ALA-rich oil may promote health. For example:

Colitis. A study with laboratory animals suggests that perilla oil may reduce the damage to the colon seen with colitis, and may do so more effectively than either EPA or DHA.[17]

Asthma. A study published in 2000 compared the effects of perilla seed oil supplements to corn oil supplements in a small group of people with asthma.[18] The results indicate that perilla oil suppresses certain biochemical substances associated with the disease and "is useful for the treatment of asthma."

Breast cancer. Animal and human studies suggest that ALA may be useful in the battle against breast cancer.[19] French researchers compared breast tissue samples taken from 241 women with breast cancer to those of 88 patients with benign breast disease.20 They found that those with greater amounts of ALA in their breast tissue had the lowest risk of having the cancer. Relatively large amounts of DHA also had a protective effect.

Weight control. Japanese researchers compared the effects of dietary perilla oil, safflower oil, olive oil, and beef tallow in laboratory rats.[21] They found that perilla oil helped prevent the excessive growth of fatty tissue.

How Much Is Helpful?

Although researchers have not yet established an optimal dose of perilla oil, the PDR for Nutritional Supplements notes that a typical dose for those concerned about cardiovascular disease, cancer, or inflammatory bowel diseases such as colitis "is about 6 grams daily, in divided doses with meals."[22] These 6 grams (6000 mg) of perilla provide some 3.3 grams of ALA.

If you take perilla oil, be sure to tell your physician, and be aware that the ALA in perilla oil may interact with aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs), ginkgo, garlic, and other herbs. The symptoms of such an interaction may include increased bruising and nosebleeds. Those taking warfarin or other blood thinners, or those soon to undergo surgery, should exercise extra caution with perilla, which may thin the blood.

Conclusion

Perilla is a newly recognized and rich source of ALA, an omega-3 fatty acid known to protect the cardiovascular system. Early human and animal studies suggest that perilla oil may be useful in combating heart disease, colon and breast cancer, colitis, asthma, and obesity.

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