Omega-3 Fats, Vitamins C and E Help Pancreas Health

By Greg Arnold, DC, CSCS, September 27, 2010, abstracted from “Intake of fatty acids and antioxidants and pancreatic cancer in a large population-based case-control study in the San Francisco Bay Area” in the October 15, 2010 issue of the International Journal of Cancer

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Pancreatic cancer is the fourth most common cancer in the U.S., causing 33,400 deaths each year (1) and costing our healthcare system $881 million each year (2). Because it cannot be detected until very late (3), pancreatic cancer has a very low five-year survival rate (less than 5%), putting emphasis on prevention as the greatest promise to help decrease deaths due to pancreatic cancer.

Plant antioxidants called flavonoids in amounts more than 22.9 mg per day have been shown to help reduce the risk of pancreatic cancer by 63%, compared to those with less than 6.45 mg per day of flavonoid intake (4). Now a new study (5) has found three ways to help improve pancreas health in the form of omega-3 fats and vitamins C and E. In the study, 532 patients with an average age of 65 with diagnosed early stage pancreatic cancer (called “incident adenocarcinoma of the exocrine pancreas”) provided information on their diet by completing a 131 food-item questionnaire (6). This information was compared to 1,701 age-matched patients without any pancreatic cancer (7).

Across all intakes of saturated fat, the researchers found an increased risk of pancreatic cancer. The saturated fats included palmitic acid (80% increased risk for more than 13 g per day vs. less than 9 g per day), lauric acid (60% increased risk for more than 540 mg per day vs. less than 270 mg per day), and caprylic acid (11% increased risk for more than 140 mg per day vs. less than 60 mg per day).

Increased risks were also seen with polyunsaturated fats like Linolenic acid (50% increased risk for more than 140 mg per day vs. less than 85 mg per day) and monounsaturated fats like Palmitoleic acid (60% increased risk for more than 140 mg per day vs. less than 92 mg per day). The one monounsaturated fat that did show a reduced risk of pancreatic cancer was Gadolic acid (32% reduced risk for more than 320 mg per day vs. less than 110 mg per day).

When looking at omega-3 fatty acids intake, they found that those with the highest 25% of intake (more than 850 mg per day) had a 53% reduced risk compared to those with the lowest 25% of intake (less than 580 mg per day). For vitamin C, those in the highest 25% of intake (more than 712 mg per day) had a 31% reduced risk compared to the lowest 25% (less than 142 mg per day). When broken into food vs. supplements, supplemental vitamin C produced a reduced risk (32% reduced risk for more than 450 mg per day vs. no supplement intake) but the same could not be found for food-related vitamin C intake due to a high rate of statistical error (p = 0.56).

Finally, those in the highest intake of vitamin E (more than 585 IU per day) had a 33% reduced risk compared to the lowest 25% group (less than 10 IU per day). When they broke it down by food vs. supplementation, supplementation showed the risk reduction (44% reduced risk for more than 675 IU per day vs. no supplementation).

For the researchers, “These results support the hypotheses that a high intake of saturated and certain monounsaturated fatty acids may increase the risk of pancreatic cancer, whereas greater intake of omega-3 fatty acid, vitamins C and E may reduce the risk.”

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