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Research Update: Studies on Antioxidants, Fiber, Raw Foods and Proteolytic Enzymes

By G. Douglas Andersen, DC, DACBSP, CCN

Here are brief summaries of four very interesting studies that have immediate application to the practicing DC.

Antioxidants and Memory¹

It has long been postulated that age-related cognitive dysfunction may be in part due to oxidative stress. In this study, researchers looked at 442 people between the ages of 65 and 94 over a 20-year period. They analyzed intakes of vitamin C, vitamin E and beta carotene, and tested memory, recognition, vocabulary and free recall. Researchers found a correlation associated with better memory performance in those persons who had higher plasma levels of vitamin C and beta carotene, and thus concluded that vitamin C and beta carotene were significant predictors of memory performance.

Comment: This is another powerful piece of evidence that reinforces something DCs have known for a long time. Antioxidants are a must for ourselves, our families and our patients.

Fiber and Minerals^{2,3}

It has long been contended that dietary fiber binds minerals, thus decreasing their absorption. In this study, researchers compared a soluble fiber, inulin, and a partially soluble fiber, beet, and the absorption of minerals in nine healthy males over a one-month period. In this small study, the results were surprising. Both the soluble and partly soluble fiber increased calcium balance and did not affect absorption of magnesium, iron and zinc.

A second study measured calcium and iron absorption in 12 healthy males, 20-30 years old, using various types of nondigestible oligosaccharides at 15 gm per day. The researchers concluded that inulin,

fructooligosaccharides, and galactooligosaccharides did not impair the absorption of calcium or iron.

Comment: Although both of these studies are small, they demonstrate that it is wrong to make a sweeping assumption that all types of fiber inhibit micronutrient absorption.

Chopping Your Salads⁴

Researchers know that cruciferous vegetables contain a wide variety of potent phytochemicals with a wide range of biological activity. Processing vegetables can have marked effects on the amount of nutrients they contain. For example, glucosinolates contained in cabbage are water soluble and, when boiled, half of this chemical may be lost. The researchers found that chopping cabbage actually increased glucosinolates by as much as 400 percent. They felt that the chopping triggered a defense mechanism in the plant which in turn liberated large amounts of this potent phytochemical.

Comment: I feel better when I eat raw fruits and vegetables. My patients who eat large amounts of raw fruits and vegetables on a regular basis appear healthier. Many of the traditional ways of measuring the nutrient contents of fruits and vegetables often tell us there is not much difference between fresh, frozen and canned. This paper raises some very interesting questions about food processing and raw foods. It reinforces the fact that our knowledge of phytochemicals is in its infancy.

New Research on Proteolytic Enzymes⁵

In a double-blind crossover trial, researchers looked at bromelain and trypsin (400-800 mg four times a day for four days) in 21 people. They found that plasma levels of both enzymes increased and that these increases correlated with the amount of enzymes supplemented. The researchers concluded that the absorption of large protein molecules of proteolytic enzymes does occur. They further felt that this could explain why proteolytic enzymes have been successfully used to treat post-traumatic inflammation, edema, and bruising.

Comment: When biologically active preparations are dosed aggressively, proteolytic enzymes have had profound effects in the practices of many DCs. Although research of this type has been performed in the past, it is nice to see a current paper that DCs can use to help justify the use of proteolytic enzymes to both patients and third-party payers.

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G. Douglas Andersen, DC, DACBSP, CCN

Brea, California

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