



## Commentaries

### Too Much of a Good Thing

**I JUST READ A FASCINATING ARTICLE IN THE** newspaper about the greater difficulties that people with lightly colored eyes have in bright sunlight, as compared to those with darker eyes. This was a sports article that noted, much to my astonishment, although possibly known to athletes and eye specialists, that the macula of the retina, the very tiny region of nerve cells in the back of the eye that is crucial for seeing colors as well as things that are directly in front of you, has a tint that is evidently proportional to the tinting of the iris, which is the colored portion of the eye. This means that baseball players with light blue eyes have more difficulty seeing through the glare of a sunny day than those with dark blue or brown eyes. To back up this claim the article cited a number of players whose daytime batting averages were far less than their nighttime averages, and a disproportionate share had light blue eyes. (Perhaps the others were heavier drinkers with daytime hangovers, but that was not explored).

The article then quoted a "sports optometrist," a technician trained in assessing people for eye-glasses as well as making them, that although he had no data to prove it, athletes with light colored eyes should eat more carotenoids, chemicals contained in kale and spinach, to increase their melanin and thus, hopefully, increase the pigment in their macula, improving their ability to see the fly ball in the sun, the 95 mph fastball in the sun, or the 120 mph tennis serve.

I assume now that a large number of people are increasing their spinach and kale consumption, which is probably a good thing. We know now that we're supposed to eat five portions of veggies or fruit daily, and why not make it kale and spinach? It's probably good for people, and I'm unaware of the danger of over-eating these things.

The question I have though is, why are people so simple minded? First of all, is there any reason to think that foods increase melanin? Secondly, if they do increase melanin,

why would it do so only in the macula? Why not in the skin? Or in the brain? Perhaps kale and spinach are cures for Parkinson's disease, in which the most severely affected parts of the brain are rich in neuro-melanin? But, of course, I'm playing the devil's advocate here, so where is the concern that by increasing melanin in the skin, which is where the overwhelming amount of the chemical is located, we might see light skinned people turning a bit darker? Has anyone noticed that light skinned people turn darker when they eat a lot of kale or spinach? If they did it might lead to a drop in vitamin D, which is synthesized in the body on exposure to sunlight. Melanin filters out the ultra-violet rays that make vitamin D, and the majority, yes majority, of adult Americans are reportedly currently deficient in vitamin D, and vitamin D deficiency is associated with cancers, multiple sclerosis, osteoporosis, weakness, falls and autoimmune disorders. So, maybe eating kale and spinach will increase cancer, multiple sclerosis and the other dread disorders. Melanin is an important constituent of malignant melanomas, an aggressive skin cancer that is almost impervious to treatment other than excision. There has long been concern about one of the medications we use to treat Parkinson's disease, which theoretically could increase melanin production, and thus indirectly cause malignant melanomas to develop or to grow faster. Luckily data has refuted that concern, although it is still listed as a potential side effect of the drug in the pharmacy handouts. So, perhaps kale and spinach will reduce the sun's glare at the expense of increased or more aggressive melanomas?

Enough on kale and spinach and melanin. What about vitamin A? Deficiencies of it cause blindness, so, shortly after this was discovered, people took it in large amounts to improve their vision. Unfortunately excess vitamin A leads to brain changes that cause blindness! Vitamin B6 deficiency causes problems in the nerves of people who take INH for TB, so that they don't function properly and develop numbness

in their feet. Replenishing the B6 solves the problem but, too much, in a normal person leads to the same problem! Iron is great for iron-deficiency anemia, but too much iron causes GI problems and liver problems.

I participated in a very large study of CoQ10, another wonder drug for many diseases, that is supposed to make mitochondria, the "power plant" of cells, work better, an ideal drug for Parkinson's disease, which has a well known mitochondrial problem. Unfortunately it didn't help anything. It wasn't harmful though.

People are too quick to jump to easy solutions for difficult problems. Just because a vitamin helps a deficiency condition, doesn't mean it will strengthen the person who is not deficient. Just because a vitamin is supposed to do something, doesn't mean it will, or that it may not do a lot of other similar things that you'd rather it didn't. Wishing doesn't make it so.

I am not saying that eating kale and spinach won't reduce glare. As one of my mentors, who was in training at the time that L-Dopa, still the best drug for treating Parkinson's disease, was in testing in the mid 1960's, "I thought the idea of using L-Dopa to increase the brain cells' dopamine supply was like taking a car that was out of gas and pouring the gas all over it." Luckily he was wrong. However his analysis and his skepticism is still right on target. I will go on record as doubting that kale and spinach will improve blue-eyed batters' averages.

— JOSEPH H. FRIEDMAN, MD

#### Disclosure of Financial Interests

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#### CORRESPONDENCE

e-mail: joseph\_friedman@brown.edu