Inflammation and Omega-3 Fatty Acids

I originally wrote this article as an informative piece to give to my patients back in December of 2002. I originally wrote it hoping to educate them about a way to help deal with a universal problem by using omega-3 fatty acids. A few months ago, the magazine, *Time*, had a main article which addressed the same problem - inflammation. *Time* also mentioned the beneficial effects of omega-3 fatty acids but only in one sentence. They devoted the majority of the article to suggesting various drugs, all of which carry side effects - both numerous and severe. Considering that inflammation is newsworthy enough to be the cover article for *Time*, I thought my simple article might be of benefit if I rewrote it for publication.

Inflammation is a bane to human existence. Many of the illnesses plaguing mankind are related to inflammation: cancer, heart attacks, arthritis, and baldness to name a few. Yes, even baldness, because DHT (dihydrotestosterone) creates inflammation around the hair follicle, which, in essence, chokes it off and causes it to fall out.

Arthritis is a well-known inflammatory condition. Various drugs are prescribed to help arthritis. Aspirin, Tylenol, Celebrex, and other drugs are used to reduce the inflammation associated with arthritis. They are commonly known as NSAIDs (non-steroidal antinflammatory drugs). However, many people do not realize that inflammation is inflammation. Because all inflammatory diseases show some connections, these drugs have been shown to help other inflammatory conditions besides arthritis. For example, aspirin has also been shown to reduce problems associated with heart attacks.

These anti-inflaillatory drugs are being used to fight cancer as well. A CBS News release discusses how research indicates aspirin reduces colon and lung cancer risk.² It states, "Although scientists do not know how aspirin reduces the risk of cancer, they suspect it could be due to its anti-inflammatory effects." Celebrex, a non-steroidal pill used to treat arthritis and pain, has been approved by the US Food and Drug Administration for use in preventing colon cancer.³-⁶ The same drugs that reduce inflammation in arthritis are also effective for cancer. That is wonderful, and it is simply because inflammation is inflammation is inflammation. But, what about the side effects of these drugs?

In June 1999, the prestigious *New England Journal of Medicine* stated, "It has been estimated conservatively that 16,500 NSAID-related deaths occur among patients with rheumatoid arthritis or osteoarthritis each year in the United States."⁴ This equates to roughly the same number of deaths due to AIDS each year in the US.⁵ This number of deaths attributed to NSAIDs (such as aspirin) does not include everyday over-the-counter use, such as when the average person goes into Walgreen’s and buys aspirin. It is estimated that 58,168 died in the Vietnam conflict. ⁶ If 16,500 arthritis patients die each year from NSAIDs, in only 3-4 years, the number of deaths they cause would equal that of the entire Vietnam conflict.

So what can we do? How can we reduce inflammation and avoid the risk of side effects that drugs conditionally carry with them? The answer is omega-3 fatty acids (e.g., EPA/DHA, fish oils).

Research indicates that omega-3 fatty acids have antiinflammatory properties.⁷ There have been a number of clinical trials assessing the benefits of dietary supplementation with fish oils in several inflammatory and autoimmune diseases in humans, including rheumatoid arthritis, Crohn’s disease, ulcerative colitis, psoriasis, lupus erythematosus, multiple sclerosis, atherosclerosis, ventricular arrhythmias, major depression, and migraine headaches.⁸,⁹,10,11,12 Many of the placebo-controlled trials of fish oil in chronic inflammatory diseases reveal significant benefit, including decreased disease activity and a lowered use of anti-inflammatory drugs by the patients.

Coronary heart disease, major depression, aging, and cancer are characterized by an increased level of interleukin 1 (IL-1), a pro-inflammatory cytokine. Similarly, arthritis, Crohn’s disease, ulcerative colitis and lupus erythematosis are autoimmune diseases characterized by a high level of IL-1 and the pro-inflammatory leukotriene LTB (4) produced by omega-6 fatty acids. Omega6 fatty acids, unlike omega-3 fatty acids, can cause inflammation.

The results of animal studies have demonstrated that the consumption of omega-3 fatty acids can slow the growth of cancer xenografts, increase the efficacy of chemotherapy, and reduce the side effects of chemotherapy or of the
It seems reasonable to assume that after appropriate cancer therapy, consumption of omega-3 fatty acids might slow or stop the growth of metastatic cancer cells, increase longevity of cancer patients, and improve their quality of life. EP A/DHA is one simple, safe, and inexpensive solution that might help with a huge variety of problems ranging from depression to cancer to heart disease to auto-immune problems, as well as everyday garden-variety arthritis.

Fatty acids known as EP A and DHA are good sources of omega-3 fatty acids. Carefully carried out scientific studies show that "the brains of individuals who are cognitively normal show age-related changes that include overall reduction in the brain volume... these changes are partly the result of nerve loss but accurate estimates of neuronal loss are notoriously difficult to make.,,14 This means that even in normal individuals there is what we could call brain shrinkage. The brain and nerves are about 80% DHA.

What I am about to write is unproven as far as I know, but I believe it to be true. I believe the reason the brain shrinks with age is in part due to dietary lack of DHA. If we don't get enough calcium in our diet, we steal it from our bones, and our bone mass can shrink (i.e., osteomalacia). If we don't drink enough water, the amount of water stored in our body decreases (dehydration). Likewise, I believe it is common sense that if we don't get enough dietary EP A/DHA, we steal it from the place it is stored - our brain.

If we add water back into the diet, we replenish the water stored in our bodies. I also believe, if we add DHA back into the diet, we will replenish its stores as well, although perhaps slowly. I believe it is possible to restore brain function by adding DHA and other omega-3 fatty acids.

Solving the problem of inflammation is not a task that can be solved simply by adding EP A/DHA as supplements. A diet of fruits and vegetables, exercise, and lifestyle changes, including cessation of smoking, would all be required. However EP A/DHA is a powerful and broad-reaching method that can be of benefit to people suffering from inflammation.

About the Author
Dr. Anglen graduated from Cleveland Chiropractic College in 1989. He earned an undergraduate degree from Park College in Nutrition with honors and has obtained the fellowship from the International Academy of Clinical Acupuncture.

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