The truth about fish oil

The Situation Room at the Health Talk Command Center was in full “damage control” mode last weekend as the klaxon horn sounded again, warning us of yet another unwarranted sneak attack on supplements.

The article in the May 9 edition of the *New England Journal of Medicine* was variously ballyhooed in the press as

“Omega-3 Fails to Prevent Heart Attacks”

and “Omega-3 Fatty Acids Not Helpful for High-Risk Heart Patients”

[and this is the diametric opposite of the previous headline] “Fish Oil May Not Prevent Heart Attack in Healthy People”

The conclusion of the *New England Journal* article was: “*On the basis of these results, we conclude that there was no significant benefit of omega-3 fatty acids in reducing the risk of death from cardiovascular causes.*“

If I weren’t a long-term veteran of the “Supplement Wars,” this article would have prompted me to collapse, place my head in my hands, and commence to weeping. Imagine, America’s most trusted heart-healthy supplement, validated by decades of research and taken by tens of millions, vaporized in an instant by a study!

When confronted with a study like this that flies in the face of so much scientific evidence, I often hearken back to a 2005 study by John Ioannidis, which was headlined “Why Most Published Research Findings Are False.”

In that landmark research paper, Ioannidis elegantly demonstrated that the majority of published studies arrive at false conclusions. This, he states, is particularly the case when bias is present or when a study attempts to adjudicate a relevant or practical question. (“Is coffee good or bad?” “Is intense exercise good or bad for the heart?”)

So, armed with a healthy dose of skepticism, I then proceeded to examine the fish oil study with a fine tooth comb. The ability to critically evaluate scientific studies is sadly lacking among journalists, who often parrot the erroneous conclusions of articles they report on.

First of all, the fish oil study was performed in . . . wait for it . . . Italy!

That means that most participants were already consuming the vaunted, heart-healthy Mediterranean diet rich in olive oil, beneficial polyphenols and omega-3-rich fish. In fact, 3/4ths of the study participants ate fish at least once weekly and fully a quarter ate fish three times or more per week! Therefore, the benefits of taking additional fish oil might have been trivial.

Additionally, and most critically, the trial involved giving *just one fish oil capsule* to participants per day! That may simply not be enough. It's well-known that the ability of fish oil to lower triglycerides only kicks in at doses of 4-6 grams per day.

It's so unfair and unwarranted to completely discount the benefits of fish oil based on such an inadequate trial, but that's what the authors and their faithful minions in the press try to do!

More inconsistencies emerge from further scrutiny of the study details.

As a placebo, researchers used capsules of olive oil. Far from being an inert agent, olive oil is itself heart-protective, thus disguising the comparative benefits of the fish oil. Bad study design!

Additionally, close perusal of the characteristics of the study subjects revealed them to be a pretty sick group. Within five years 12 percent of them were dead. Half of them were obese or diabetic. A quarter of them were smokers. Most were on antihypertensive drugs, statins or aspirin.

When study subjects are sick, something I call "The Lazarus Effect" comes into play. Preventive measures such as taking fish oil or vitamins tend to get overwhelmed by patients' headlong march toward death.

Maybe Jesus could raise Lazarus from the dead, but that's a lot to expect from a measly daily fish oil pill, whose effects could be swamped by an arsenal of drugs or the deleterious effects of overeating or smoking.

A couple of other considerations come into play. The fish oil supplement used in this study was an *esterified* omega-3 fatty acid. This type of fish oil is commonly used in drug company fish oil products, such as the popular prescription product Lovaza.

Some argue that the more natural *triglyceride* form of fish oil, used in the majority

of products sold in health food stores, is more bioavailable and heart-protective.

Finally, when evaluating a study, it’s always important to probe for bias. Who funded the study? Do they stand to gain financially (follow the money trail!)?

Interestingly, one of the underwriters of this research is Pfizer, heavily invested in statin drugs. Their direct competitor, GlaxoSmithKline, is the main pharmaceutical patron of fish oil. Their fish oil product Lovaza, if found to be protective against heart disease, could steal market share from Pfizer’s cholesterol-busters. (Jus’ sayin.’)

An additional observation: We’re too stuck on the one-pill paradigm for disease prevention. Pharmaceutical companies focus on magic bullets that fit conveniently into tiny capsules. Maybe, just maybe, God and nature have provided us with a vast arsenal of protective agents that can’t conveniently be stuffed into a one-a-day pill! When the obvious benefits of eating multiple servings of oily fish can’t be replicated with a single capsule, scientists are too willing to negate the obvious benefits of omega-3 fatty acids.

But wait, folks, there’s more . . .

To make matters worse, another study this week downplays the effectiveness of lutein, zeaxanthin and DHA from fish oil in preventing age-related macular degeneration.

Again, there were headlines:

“Omega-3s Have No Benefit on AMD”

“No Benefit for Aging Eyes with Additional Antioxidants”

“Omega-3 Fatty Acids Provide No Benefit for Age-Related Macular Degeneration”

First, some background:

In the 1990s, Dr. David Newsome revolutionized eye care by demonstrating for the

first time that supplementary zinc could slow the progression of macular degeneration.

Thus was launched AREDS 1, a study utilizing zinc, vitamin C, vitamin E and beta carotene to combat AMD. Bottom line, it worked.

Over the years, additional research pointed to the benefits of lutein and zeaxanthin, carotenoids found in yellow-orange vegetables and particularly in egg yolk, as well as DHA from fish oil.

So AREDs 2 was undertaken, and the results are in: contrary to press reports, lutein, zeaxanthin and DHA *worked*!

Let me explain. The press reported that there were no benefits of the AREDS 2 supplements, but that was true only for study participants who already had adequate dietary intake of these nutrients.

AREDS 2 displayed significant finding for those with the lowest dietary intakes of lutein and zeaxanthin. Those subjects experienced a 26 percent decrease in advanced AMD progression, and a whopping 36 percent reduction in risk for severe cataracts, with 32 percent fewer patients requiring cataract surgery.

Moreover, the results demonstrate the study supplementation significantly improved the plasma antioxidant capacity and fortified the optical density of the macular pigment.

The study may have been an unfair test of the ability of omega-3 to prevent macular degeneration because, in the interest of cramming everything into a compact capsule, the researchers short-changed the amount of DHA used.

The AREDS 2 supplements provided just 100mg of DHA per capsule. For comparison, the fish oil capsules that I prescribe, usually two to six capsules per day, deliver 300 mg of DHA per cap!

To fully protect vision, I recommend taking a balanced antioxidant, and a lutein/zeaxanthin capsule along with separate DHA-rich omega-3 capsules. Additionally, Pycnogenol and the resveratrol supplement Longevinex have shown remarkable benefits in slowing AMD in preliminary studies.