

Selenium & Tumor-Suppressing Genes

by Charles Walters

We used to believe that only Wall Street types made one word a basic vocabulary entry — *more!* But the eco-farmers of our toxic era also want more — not money, but knowledge — and in the wake of our *Minerals for the Genetic Code* publication, they want more on Number 50 in Dr. Olree's Standard Genetic Code, namely selenium.

Selenium started making its way into the veterinary literature in the 1960s, and bumped its way into human nutrition and healing in the early 1970s. Two researchers named Schwartz and Foltz first recognized the essential role of selenium in 1957. In the esoteric style of that hour, they served up a factor 3, a dietary necrotic liver disease.

Once the door was kicked open, selenium lost its status as a toxin that stubbornly resisted the government of homeostasis, that natural propensity of the body to dispose of unwanted minerals and compounds. Suddenly the medical and veterinary professions learned about the capacity of dietary selenium to prevent the development of exudative diathesis, a condition characterized by a leakage of plasma into the subcutaneous spaces of the abdomen and breasts of test chickens.

Selenium was a hot topic when I handled an editorial pencil at *Veterinary Medicine* in the late 1950s and early 1960s. It should have been a headline in the *Wall Street Journal!* White muscle disease was the first nemesis to be conquered, and then the door flew open. It wasn't closed by the recent publication of *Minerals for the Genetic Code*, it was lifted off its hinges.

THE NEW ENCOMIUM

Before the 1970s, selenium was generally considered in the same toxic category as arsenic, lead, mercury or other heavy metals. The problem was and remains, selenium is *not* selenium when it comes to nutrition. The right selenium is selenomethionine. Its essential status arises from the fact that it is protein based. The other biological form of selenium is

called selenocysteine, an enzyme catalyst of biochemical events. This distinction came to the fore the day investigators started dealing with Keshan's disease, a human condition characterized by dilated cardiomyopathy.

These observations may seem a country mile removed from the human clinic or the feedlot, but since these few findings were made, selenium has climbed the ladder to a position of 50 out of 64 on the Olree chart that backbones *Minerals for the Genetic Code*.

Cancer is probably the one condition that brings on Cheney-Stokes palpitations the minute it is mentioned and is probably the reason many people ask for "more" explanation of that Number 50 position on the Olree chart.

Many geneticists hold that the life, comfort and death of the human being are all programmed by the genetic package gifted the infant via its XX and/or XY chromosomes. This is not the position Richard Olree holds in *Minerals for the Genetic Code*. There are tumor-suppressing genes that can offset the inheritance bestowed by a cancer-prone gene. Olree has consulted an abundance of literature that says the tumor-suppressing genes often fail for want of a suitable mineral load, or because of chemical toxicities.

Here it may be well to pause for a statement that layman and professionals all can understand.

In the cell — plant, animal, or human — there are chromosomes that carry all the information needed to direct the cell's growth, division, and production of chemicals such as proteins. These chromosomes are composed of information-bearing genes. Radiomimetic chemicals (chemicals that ape the character of radiation), radiation itself, and many of the chemicals used in agriculture and the environment can injure the chromosomes either by altering the chemistry of a single gene so that the gene conveys improper information (called *point mutation*), or by actually breaking the chromosomes (called *deletion*). The cell may be killed, or it may continue to live, sometimes reproducing the induced

error. Some types of cell damage cause genetic misinformation leading to uncontrolled cellular growth — cancer.

Toxicity generally locates itself in the fatty tissues. That is why so many weight-reduction schemes result in the expression of cancer. As fat departs, toxins are released to perform their mischief. As Richard Olree puts it, "Obesity is just as bad as the cancer factor." It warehouses the inventory of toxins that "better living through chemistry" has accounted for. In a manner of speaking, one can point out that the average American carries so much toxicity that he or she, based on FDA guidelines, would be unfit for human consumption in a cannibalistic society.

BREAST CANCER

It can be said that we have a near-pandemic of breast cancer in the United States. A precancerous condition — which may or may not be genetic — sets up a series of bio-events. Unregulated by tumor-suppressing genes, these result in every form of cancer.

The human breast is a repository for a measure of fat. That fat is a catchpan for toxicity. If the proper kind of selenium is missing from the diet, activation of the tumor-suppressing genes — notably, P-52 — is stalled out.

P-52 is not a fighter plane. It is the guardian of the genetic code. It is the most potent tumor-suppressing gene, and it will not function in the absence of selenium. The lady who allows herself to run out of selenium is inherently a target for the expression of the cancer-producing gene. If the lactating woman is selenium deficient, she will likely have poor breast-feeding results.

SELENIUM FORMS

The cheapest form of selenium on the market — animal or human — is sodium selenite, a salt with no more than 15 percent utilization. On the other hand, selenomethionine is upward to 80 percent utilized. Selenocysteine can act as a substitute for yttrium (see "The Yttrium Paradox Explained," January 2007) as a terminal point in protein production.

This deficit is almost always present when alien substitution takes place in the bio scheme of things. The prospect of picking up the proper form of selenium from food or forage hovers hardly an inch above absolute zero. This prospect is exacerbated by near-total ignorance about where our food is coming from. Thus there is absolute ignorance of the

selenium load in almost all foods. Factory farms pay little attention to anything except basic salt fertilizers and toxic rescue chemistry.

NATURE'S BALANCE

For every type of cancer discovered so far, we have also discovered a tumor-suppressing gene. And all tumor-suppressing genes require the right chemical activation. In sequencing these genes, Richard Olree has found that all have a high requirement for iodine. Iodine, in turn, cannot be activated without selenium. Therefore it is incumbent on people to take charge of their selenium levels. The highlight of any trip to a health food store should be reading the label. If the package does not say *selenomethionine*, it should be shunned the way the devil is said to shun holy water.

The farmer is not exempt from this caution. The selenium in the feed mix will likely determine whether the state veterinarians ask for herd depopulation and other futile measures to eradicate the disease of the day. A recent spate of pasture fertilization with ocean minerals is a pragmatic answer to the errant epidemiology being practiced by the proponents of pharmaceuticals or gunfire on the range. Pasture managers are accessing, via ocean minerals, nutrients that have vanished from American acres.

SOURCING ANIMAL SELENIUM

There are only a few suppliers of selenomethionine. One is Diamond V out of Cedar Rapids, Iowa. Another source is Lallemand's High Selenium Yeast, also called Alkosel. Excell Yeast is also an excellent product in this respect.

All selenomethionine products for animals are forms of yeast, usually a powder. The yeast species that converts sodium-selenite salt to selenomethionine is called *Saccharomyces cerevisiae*. This is the fungus that will take inorganic sodium selenite — now used in 99 percent of all animal feeds — into a usable organic form.

FINALLY

A measure of any multivitamin should be the source of its selenium. There are providers of sodium selenite, selenium molybdate, etc. Look for the salt form, then do an about face and retreat. You'll have avoided the danger of selenium toxicity. The body, human or animal, simply cannot convert the salt form to a usable selenomethionine.

One of the benefits of expelling selenomethionine via urine is that it will remove lead, mercury, arsenic, all the heavy metals.

The medical literature, an ever-present source of research information — even though practitioners are often tardy finding out — tell us that selenium protects against artery furring (atherosclerosis). It should reduce the risk of heart disease by inhibiting the oxidation of LDL (bad) cholesterol.

According to researcher John Connell, the vitamin D requirement of mammal life forms in a cloudy environment — September 1 through May 1 — coupled with selenium, could erase the perceived mandate for government intervention and herd depopulation in northern Michigan. Admittedly, we extrapolate and think out of the box, but proofs assembled so far allow no other conclusion.

Vitamin D is a critical component in the creation of a gene that presides over the iodine-binding protein. It requires vitamin D. Any chemical reaction requiring iodine also requires selenium.

All of the above is a bit "more" for those who have already read *Minerals for the Genetic Code*. For those who have still to read the book, it should serve as a tantalus with its own reward.

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