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Supplement to
The Art of Getting Well
Germanium

Sources are given in references.

Authors of contributions/quotations are alphabetically arranged; major author, if any, is underlined.

Kazukiko Asai, Dr. Gerald Garcia, Sandra Goodman, Ph.D., Betty Kamen, Ph.D./Responsible editor/writer Anthony di Fabio.

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Several paperback books recently found in health food stores and book stores describe the merits of "germanium", and until several years ago many health food stores and pharmaceutical companies were beginning to stock the substance. One reference is *Germanium: A New Approach to Immunity* by Betty Kamen, Ph.D. and another is *Germanium: The Health and Life Enhancer*, Sandra Goodman, Ph.D.¹.

Unfortunately, the FDA clamped down on this substance and, while it can be obtained, it is not quite as prevalent as it should be. The literature is filled with its medical wonders that require further investigation.

Before you go out and purchase Germanium per se, keep in mind that it is a very toxic and poisonous substance in its natural form, or in the form of many of its salts. It's not "Germanium" that you are after, but rather a new substance called bis beta-carboxyethyl germanium sesquioxide, since also titled as Ge₁₃₂ (mu-trioxo-bis [beta-carboxyethyl] germanic anhydride). Its inventor and developer, Kazukiko Asai, a Japanese chemist and coal engineer, tested 132 compounds of Germanium, finally ending with this one -- thus titled Ge₁₃₂.

For those of you who know about and use herbs, it is of interest to note that organic germanium is an active ingredient in garlic, aloe, comfrey, chlorella, ginseng, watercress, shelf fungus (which is a variety of Reishi mushroom), Shiitake mushrooms, pearl barley, sanzukon, sushi, waternut, boxthorn seed and wisteria knob.

It will also interest you to learn that many of the traditional problems for which the above specific natural substances are recommended, are also solved when using organic Ge₁₃₂.

While there are many claims about what Ge₁₃₂ — hereafter often to be called "Germanium" — will do for the health, only certain characteristics stand out and seem to be substantiated both by supporting research and clinical practice. I cannot report on everything, and so will hit some of the highlights that seem to be firm.

Pain is a way of life for arthritics, and anything that can and will safely reduce pain is of importance. A most interesting characteristic of Germanium is its ability to relieve a great deal of pain. It does this by inhibiting the natural body enzyme that, in turn,

Endorphins are substances produced in the brain that naturally raise the pain threshold. Some of us produce more endorphins than others, and those that produce very little are highly sensitive to pain. Another way of describing the phenomenon of pain sensitivity is in the recognition that some of us produce more of the enzyme that blocks the utilization of our own endorphins, thus making us more sensitive to pain. Bis beta-carboxyethyl germanium sesquioxide inhibits the endorphin inhibitor.

Personal use, and reports from physicians and patients, indicate that Germanium does work as a pain desensitizer.

In both humans and animals Ge₁₃₂ has been shown to increase gamma interferon in the blood, activate macrophages and natural killer cells, bring blood hemoglobin levels up and white cell counts down, stimulate immunomodulation activity in the B cell system, and demonstrates antitumor and antiviral activities. This substance, therefore, may be an excellent adjuvant (aids the operation of) immunochemotherapeutic agent. The effects of Ge₁₃₂ on various immune parameters are almost identical to that of known gamma interferon immunomodulating activity. In addition, studies on immune-suppressed animals and on patients with malignancies or rheumatoid arthritis suggest that Ge₁₃₂ normalized the function of T cells, B lymphocytes, anti-body-dependent cellular cytotoxicity, natural killer cell activity and numbers of antibody-forming cells. Obviously organic germanium has a "normalizing" influence on the immune system.

A key characteristic of Germanium is its ability to "normalize" many physiological functions. For example, it has the ability to lower blood pressure on hypertensive people. This normalizing effect may extend to a broad variety of physiological/biochemical functions, such as restoration of deviant blood parameters to their normal ranges, including pH, potassium, calcium, chloride, triglycerides, cholesterol, bilirubin, uric acid, and blood hemoglobin.

Our bodies have many physical/chemical systems that are in a state of "homeostasis", which is the ability to restore systems to their "normal" state.

A substance that assists the body systems to restore to normality is called an "adaptogen". Germanium is without any question an adaptogen.

Inside cells, Ge₁₃₂ acts as an electron sink at the mitochondrial level. By analogy, when cells produce energy, the process produces excess electrons that must go somewhere. When we are healthy, we handle those excess electrons without too much trouble. As we age, or get diseased, the electrons, having no place to go, attach themselves to various substances, creating products that are undesirable for health.

Ge₁₃₂ picks up those excess electrons, thus improving the efficiency of the cellular operation.

In effect, Ge₁₃₂, analogous to thyroid hormones, improves the overall metabolism of the cell, thus the organ, the system, and therefore the body is improved.

In a sense, like EDTA Chelation therapy, which scavenges free-radicals throughout the circulatory system outside the cell, Ge₁₃₂ scavenges electrons before they will produce free-radicals inside the cell.

Bis beta-carboxyethyl germanium sesquioxide is virtually non-toxic to the human system. When IV (intravenously) administered it is excreted very rapidly, with about 60% lost in the urine within the first hour, and 90% lost within three hours.

It is apparently not metabolized at all by tissues, and levels peak in the tissues within six hours following oral (sub-lingual) administration, and it is not retained significantly by any organ

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Ge₁₃₂ is apparently one of the very safest products that can be taken. It's effects are "dose dependent" meaning that the above described good effects are increased as the dosage increases, up to a point of final normalization, after which the increase in dosage is irrelevant, and does no harm, creating no further changes.

The less wrong with a person (as with healthy children) the less help is Germanium, and vice versa.

There are many different treatment modalities for Germanium, many of which, though differing, may be useful. I only describe one, taken from literature published by Geraldo Garcia, Ph.D. of World Pharmaceuticals².

Dr. Garcia suggests use of Ge₁₃₂ via both injectable (10 ml vials, 500 mg) and sub-lingual capsules (150 mg). They also suggest that the treatment module be considered in terms of minor illness, moderate illness or major illness, and their recommendations follow:

Minor Illness — Fourteen day treatment plan.

Day 1 5 ml injection, 1 capsule — four times per day.

Day 2 Same as above.

Day 3 Same as above.

Day 4 Same as above.

Day 5 1 capsule — four times per day.

Day 6 1 capsule — four times per day.

Day 7 1 capsule — two times per day.

Day 8 Thru 13 1 capsule — two times per day.

Day 14 1 capsule — one time per day as maintenance dose.

Moderate Illness

Day 1 Thru 10 5 ml injection, 1 capsule — four times per day.

Day 11 Thru 21 1 capsule — four times per day.

Day 22 Thru 30 1 capsule — two times per day, then drop to maintenance dose of one capsule per day.

Major Illness

Day 1 Thru 14 10 to 20 ml injection twice per day giving 5 ml per injection — 1 capsule 6 times per day.

Day 15 Till Recovery 5 to 10 ml per day injection — 1 capsule 4 times per day until recovery, then maintenance dose of 1 capsule per day.

Since Ge₁₃₂ strikes at one of the fundamentals of cellular metabolism (analogous to Thyroid), it is not surprising that so many different disease states can be improved. In the various literatures on use of Germanium, chiefly research from Japan, one finds the following cases successfully treated or improved with Germanium:

Breast Cancer, Post Operative treatment of cancer, lung cancer, prostate cancer, ovarian cancer, Dermatitis, B-type Hepatitis, Epstein-Barr Virus Syndrome, Angina Pectoris, AIDS (HIV and ARC), Hypertension, Stomach Ulcer, Asthma, Liver Cirrhosis, Diabetes, General Stiffness, Influenza, Candidiasis, Stroke, Genital Herpes, Hypotension, Hypertension, Hyperthyroidism, Atherosclerosis, Constipation, Senile Amyloidosis, Impotency, Diarrhea, Articular Rheumatism.

Germanium should be considered as at least adjunctive therapy.

There has been only one source for Ge₁₃₂ and that is from one company in Japan. They have sold to distributors in the United States who, in turn, have sold to wholesalers and retailers. The 1989 price is high, about seventy cents per tablet of 150 mg when purchased wholesale. Retailers must, of course, have their mark-up to stay in business, which means in some cases that you must pay up to one dollar per capsule retail. What the price is at this date has not been researched.

Because of the monopoly on source and consequent high price for long term usage, competitors are entering the field producing

Germanium that is often impure, useless and sometimes dangerous, although others without the World License are also producing Germanium as good as the best.

I must caution again: there is a strong tendency in all of us to search for a bargain, and there are Ge₁₃₂ marked products that seem to be bargains but which are not. Not all products that are labeled Ge₁₃₂ (or "organic" germanium) are in fact bis beta-carboxyethyl germanium sesquioxide. Physicians have found that many cheap supplies will assay with the correct amount of Germanium, but on fine analysis learn that cheaper, ineffective and sometimes dangerous forms of Germanium have been salted in the product. (There are four necessary tests: purity, solubility, elemental Germanium and total kjedahl nitrogen. Presence of nitrogen compounds remaining in the final product can be dangerous.) Also note the size of the Germanium tablet. If it says anything less than 150 mg, you are probably being led to think that you are purchasing a large quantity of the substance, but in reality you will have to take a larger number of tablets to achieve good results.

Much literature on this subject states that swallowing the pill whole is often ineffective, as often up to 70% will simply not be absorbed into your blood stream where it is needed, whereas only 45% will not be absorbed beneath the tongue.

Apparently this was true during the initial developmental trials of Ge₁₃₂ laboratory and clinical tests no longer bear this out in its present form. Tests given me by one company (Vitaline) show that there is little difference between swallowing the substance whole and sub-lingual routes, and that even those with low hydrochloric acid absorb the substance.

When using Ge₁₃₂ sub-lingually, and dependent upon the content of other substances in the tablet, you may note a shedding of mucosa tissue where the tablet contacts the tongue or cheek. This is unimportant and will repair rapidly and is caused by substances other than Germanium.

Unfortunately your Congressional Senators and Representatives, in their infinite wisdom, have seen fit to authorize the FDA to remove inoffensive and very useful items, such as bis beta-carboxyethyl germanium sesquioxide from the American market. One can understand the disapproval of Germanium Dioxide, which, indeed, can be dangerous. But bis beta-carboxyethyl germanium sesquioxide?

There are still American sources of this useful, substance, if you can find them. Certainly foreign sources, such as Mexico or Japan can provide you with a personal supply -- but watch out for proper quality and ingredients!

There are as of 1989 over 100 professional scientific research papers on the effectiveness of Germanium, and they substantiate the claims made. Whether or not Germanium will work for you, whether or not it is cost effective for you, only you can determine.

I have personally found it useful for me.

References

1. Betty Kamen, Ph.D., *Germanium: A New Approach to Immunity*, Nutrition Encounter, Inc., Box 689, Larkspur, CA 94939, 1987; Sandra Goodman, Ph.D., *Germanium: The Health and Life Enhancer*, Thorsons Publishers Ltd, Wellingborough, Northamptonshire NN8 2RQ England, 1988.

2. Geraldo Garcia, Ph.D., World Pharmaceuticals, 695 Sweetwater Rd., Suite 206, Spring Valley, CA 92077.