

Cancer-- Cachexia Treatment-- Hydrazine Sulfate

The 1931 Nobel laureate in medicine, German Otto Warburg, Ph.D., first discovered that cancer cells have a fundamentally different energy metabolism compared to healthy cells. The crux of his Nobel thesis was that malignant tumours frequently exhibit an increase in anaerobic glycolysis [*a process whereby glucose is used as a fuel by cancer cells with lactic acid as an anaerobic by-product*] compared to normal tissues.

The large amount of lactic acid produced by this fermentation of glucose from cancer cells is then transported to the liver. This conversion of glucose to lactate generates a lower, more acidic pH in cancerous tissues as well as overall physical fatigue from lactic acid build-up. Thus, larger tumours tend to exhibit a more acidic pH.

This inefficient pathway for energy metabolism yields only 2 moles of adenosine triphosphate (ATP) energy per mole of glucose, compared to 38 moles of ATP in the complete aerobic oxidation of glucose. By extracting only about 5 percent (2 vs. 38 moles of ATP) of the available energy in the food supply and the body's calorie stores, the cancer is 'wasting' energy, and the patient becomes tired and undernourished.

This vicious cycle increases body wasting. It is one reason why 40 percent of cancer patients die from malnutrition, or cachexia. Hence, cancer therapies should encompass regulating blood-glucose levels via diet, supplements, and non-oral solutions for cachectic patients who lose their appetite, medication, exercise, gradual weight loss and stress reduction.

To sum up:

- Cancer cells ferment glucose, a very inefficient mechanism.
- As part of this fermentation, cancer cells create lactic acid.
- This lactic acid goes to the liver.

- This process also makes a cancer cell very acidic (which is why cancer cells do not like to be alkaline).
- Cancer cells are very inefficient at processing glucose, only about 5% as efficient, meaning they ‘waste’ energy.
- This wasted energy causes the cancer patient to become tired and malnourished.
- This excessive use of glucose by a cancer cell is actually part of the process whereby cancer cells actually ‘steal’ glucose from normal cells (cancer cells also steal nutrients from normal cells).
- This means normal cells can literally starve to death, creating malnutrition and death.

It is this vicious cycle that causes the body to literally waste away. But there is another key part of the cycle:

- Large tumours produce much lactic acid that is reconverted in the liver into glucose in a process that consumes much energy.

Because of this endless cycle, [the liver converting the lactic acid back into glucose] the cancer cells are assured of nutrients and never starve.

This conversion by the liver of the lactic acid back into glucose also takes large amounts of energy. The energy comes by depriving other cells of their precious nutrients. The patient is literally starved to death.

In other words Cachexia is the wasting away of the cancer patient’s body. The person is reduced to skin and bones, while the cancer continues growing vigorously. This happens over and over again as the cancer grows and the rest of the body wastes away.

It is important to block this conversion by taking hydrazine sulphate or [cesium] chloride. Hydrazine sulphate blocks a key enzyme in the liver that allows lactic acid to be converted into glucose thus breaking the cycle of providing nourishment to the cancer cells from this

source. Malnourished cancer cells become weak and vulnerable.

The patient becomes better nourished becomes stronger, gains weight and has increased energy that are especially important in the last stage of cancer. As an additional benefit, tumour growth may be inhibited, and in some instances tumours gradually disappear.

Here is another way of looking at this cycle:

Cachexia:

In a chronic infection/chronic disease, the patient's temperature rises, the CD4 count drops below the CD8 count, and the appetite wanes until the patient develops pathological anorexia. The body still needs nourishment, so it begins breaking down its fat stores, the process of glycogenesis, and also begins to break down proteins to deliver these sugar precursors, the ones produced by glycogenesis, to the body. The body is in a catabolic state.

The metabolism of tumor/cancer cells is much less efficient than normal cells. Normal cells metabolize aerobically, using oxygen, which is 15 times more efficient than cancer cells that metabolize anaerobically, through a process of fermentation. Fermentation, being less efficient, requires much more sugar than aerobically metabolizing cells.

Additionally, the metabolism rate of a tumor is much higher than that of normal cells, so the amount of sugar needed is still greater.

Eventually the patient dies trying to feed the tumor. Starvation is the major cause of death in cancer and AIDS patients. In short, when the person quits eating, the body starts to eat itself in order to feed the cancer cells.

Further, the lactic acid build-up induces an acid build-up within the cell, which now causes changes in the DNA of the cell to promote unlimited reproduction. In other words, the cancer feeds itself in an acid environment.

Another potential way to starve the cancer then is to interfere with the liver's ability to produce glucose from lactic acid (the enzyme is called phosphoenolpyruvate carboxykinase) through hydrazine sulfate. Again, the specific agent is not the emphasis but rather the conceptual approach to altering the tissue environment.

Methyl Sulfonal Methane prevents the crystallization and the build up of lactic acid. The MSM flushes the lactic acid out, along with all the other bad toxins in your system. By taking large amounts of MSM, more toxins that cause soreness are flushed out of your system. Remember, lactic acid is nothing more than a toxin, and can be detoxified just like any other toxin in the body – by MSM.

There is another product called Ribose. Ribose is used to treat fibromyalgia because it can get past the lactic acid in the body and get glucose directly into the muscles. This is critical for cachexia patients.

Diet Strategy

Before going any further, it is important to make a distinction. When a person first starts a typical alternative cancer treatment, there should be a radical change in their dietary habits. The person should go from a meat and refined sugar based diet to a special type of vegan diet. This change should happen quickly.

This change in diet, by itself, may typically cause a person to lose weight. Thus, just because a person who goes on an alternative cancer diet loses weight does not mean that their body is in the cachexia cycle.

In other words, even if a person did not have cancer, if they made such a sudden change in diet they would lose weight! In fact, a low simple carbohydrate diet is a good weight loss diet even for people who do not have cancer.

Cachexia is different. With cachexia the body is literally eating itself. It is eating the person's muscles, fat and many other parts of the body.

Thus, it is important that the patient must keep in mind the difference between a 'normal' loss of weight and an 'abnormal' loss of weight. One key to determining whether a loss in weight is cachexia or not, is noticing *when* the steep uncontrollable weight loss started. If it started *before* the switch to alternative treatments, it might be cachexia.

However, if the weight loss started at the same time as the switch to an alternative cancer diet, most likely it is not cachexia, unless the weight loss continues for more than a few weeks.

Also, in some cases the person loses their will to eat, usually due to being sick all of the time. This leads to a loss of appetite and a loss of weight. While this is technically not cachexia, it almost certainly will lead to cachexia. Cancer cells will eat, and they will eat the person's body if necessary.

There are other conditions that can cause uncontrolled weight loss. For example, in some rare cases hormone balance defects may cause an unstoppable loss of weight. The correct approach to treat such a condition should be addressed.

Hydrazine Sulfate

Of all of the alternative treatments for cachexia, perhaps Hydrazine Sulphate is the best known. The reason is that it was designed specifically for cachexia.

As mentioned earlier hydrazine sulfate works on stopping the lactic acid cycle. Hydrazine Sulphate, or more commonly Hydrazine Sulfate, interrupts the ability of the liver to convert lactic acid

produced by tumours into glucose thereby helping to starve the tumours and inhibit their ability to metastasise.

Dr. Joseph Gold recognized in the 1960's that metabolic strategies that inhibited the enzyme phosphoenol pyruvate carboxykinase (PEP-CK) would reduce gluconeogenesis and decrease the severity of cachexia. Dr. Gold after testing a series of compounds found that hydrazine sulfate could effectively reduce excessive gluconeogenesis in cancer.

Hydrazine Sulphate Protocol

The Minnesota Protocol:

*One 60 mg capsule every day for the first 3 days. With or before breakfast.
One 60 mg capsule twice a day for the next 3 days. Before breakfast and before dinner.*

One 60 mg capsule three times a day thereafter. Approximately every 8 hours beginning with breakfast.

This protocol is based on a patient weight of 55 Kg and above; for a patient weight of 50 Kg and below, half dosages have been reported effective. Generally it is reported that hydrazine sulfate is most effective when administered by itself (no other medications given one-half hour before or after administration of hydrazine sulfate) before meals. If adequate response is made on 2 capsules daily, patients have been reportedly maintained on this dosage schedule and not increased.

Best efficacy with hydrazine sulfate has been reported by maintaining daily treatment for 45 days followed by an interruption for 1 to 2 weeks, then re-institution of treatment; this interruption has been reported to prevent the development of peripheral neuritic symptoms [inflammatory or degenerative lesion of a nerve marked especially by pain sensory disturbances, and impaired or lost reflexes].

In addition, it has been reported that there is an incompatibility of hydrazine sulfate with ethanol, barbiturates, and tranquilizers. Patients receiving hydrazine sulfate should thus avoid alcoholic beverages, tranquilizers, and barbiturates.

This is the protocol of Walter Last:

It is taken in an amount of 60 mg 3 times daily with meals. Start with only one 60 mg capsule with breakfast for 3 days, and then add a second capsule with lunch for another 3 days and finally an additional capsule with dinner. If the body weight is less than about 55 kg then only 2 capsules per day may be taken and below about 43 kg 3 times 30 mg may be used. If you feel good on this schedule, then this program may be maintained for several months but more commonly it is interrupted by a 2-week rest period after about 6 weeks.

It is important to note that there must be BREAKS in the treatment at specified intervals!!

Warnings

Hydrazine Sulfate is a MAOI (Momoamine Oxidase Inhibitor). What it does is inhibit an enzyme that breaks down monoamines (serotonin, norepinephrine, and dopamine), those brain chemicals that make us happy. MAO inhibitors have been used as antidepressants. MAOI is a class of compounds that can have potentially deadly interactions with other drugs. For over three decades it has been known that central nervous system depressants—such as barbiturates, tranquilizers and alcohol—are incompatible with MAO inhibitors and use of the two together could result in extremely dangerous effects.

However, MAOIs have another job in the body: they metabolize tyramine, an amino acid. When taking a MAO inhibitor, tyramine is not broken down, and *eating foods with tyramine can raise your blood pressure and heart beat dramatically and causes the worst headache you have ever experienced.* This is a very dangerous condition, especially for someone already battling cancer. Most of the foods containing tyramine are not on the cancer diet plan, and you should be avoiding them

anyway. In addition to all of these things, foods high in glucose should be avoided.

Foods containing tyramine are (mainly) aged, fermented, or pickled, such as most cheeses (except cottage cheese, cream cheese, and fresh Mozzarella), lunch meats, hot dogs, yogurt, wines and beers. Here is a pretty good list of foods that contain tyramine:

- Barley grass (perhaps the highest percentage of all according to Dr. Duke, but he doesn't list other grasses), which would exclude all barley supplements,
- Dry and fermented sausage (bologna, salami, pepperoni, corned beef, and liver),
- pickled herring and salted dried fish,
- broad beans and pods (lima, fava beans, lentils, snow peas, and soya beans),
- meat extracts,
- yeast extracts/brewer's yeast, beer and ale, red wine (chianti, burgundy, sherry, vermouth),
- sauerkraut,
- fruits listed by Dr. Duke (oranges, tangerines, lemon, grapefruit), and overripe fruits.
- some fruits (bananas, avacados, canned figs, raisins, red plums, raspberries, pineapples),
- raisins, figs, dates and dried fruit in general
- cultured dairy products (buttermilk, yogurt, and sour cream),
- chocolate,
- caffeine (coffee, tea, and cola drinks),
- white wine, port wines, distilled spirits,
- soy sauce, miso, peanuts, almonds,
- beef or chicken liver, herring,
- meat tenderizer, MSG,
- pickles,
- Pumpkin seeds.

- most cheeses
- cured meats or fish
- yoghurt,
- tofu and tempeh
- sour cream
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Tranquillizers or sedatives in doses greater than 100 mg per day, especially benzodiazepines and phenothiazines should be avoided, also antihistamines, alcohol and other agents that depress the central nervous system such as morphine. Also vitamin C and B6 should not be taken; Natural vitamin C from fruits is OK.

In general, any high protein food that has undergone aging should be avoided. Also, any over-the-counter cold or allergy remedy should also be avoided.

Note: there is absolutely no accurate list of what foods have tyramine. One site says raspberries and grapes do have them, and another site says they don't. The bottom line is if the cancer patient gets headaches, then it is highly likely they are eating something with tyramine in it. Start eliminating foods *in the same food categories* as in this list.

If the cancer patient is in a lot of pain, the cesium chloride with DMSO treatment and the Aloe Immune may be able to stop the pain within 2 or 3 days. The patient may be able to get off of morphine, or a similar drug. However, *wait until the morphine, or other drug, is out of the system before beginning hydrazine sulfate.*

Finally, hydrazine sulphate should be taken in exact doses. Overdosing can do more harm than good.

Cesium Chloride

One option to help hydrazine sulfate stop this cycle is alkalinity. Cesium chloride (and a few other minerals), the most common substance to make cancer cells alkaline in an alkaline treatment program, has been proven by Dr. A. Keith Brewer, PhD, to get into cancer cells, when other nutrients cannot.

The cesium chloride:

- 1) makes the cancer cell alkaline,
- 2) limits the intake of glucose into the cell (thus starving the cell),
- 3) neutralizes the lactic acid (which is actually what causes the cell to multiply uncontrollably) and eventually kills the cell and makes it nontoxic,
- 4) stops the fermentation process, which is a second affect of limiting the glucose (fermentation is what creates lactic acid in the first place).

In other words, cesium chloride will break the cycle in several different ways.

But this is the important point:

Hydrazine Sulfate blocks the cachexia cycle in the liver and cesium chloride blocks the cachexia cycle in the cancer cells.

Both cesium chloride and hydrazine sulfate are complex treatments and have many restrictions. Extreme care should be taken and all advised precautions must be ensured.