

Vitamin C Therapy

1. The RDA for Vit C is 120 mg for a nursing female. Mankind does not make Vit C so let us look at a 150 lb animal that does make Vit C. In an unstressed state it will make between 12,000 and 14,000 mg of Vit C. Doing simple math, the RDA for a nursing female is 1/100 of what this animal would have manufactured. 1%, 1%!!! – this is why I call RDA “Ridiculously Deficient Amount”.
2. Presently 99% of Vit C comes from China. Enough said. In the clinic we used to do dip stick UA’s to show patients how little Vit C was in their body and then have them take Vit C. The next time they were in the office the simple dip stick would show an abundance of Vit C in their urine. Sounds great until it was learned that this was genetically modified Vit C that the body could not effectively use it and so was dumping it into the urine!
3. We now are advocating a non-corn, non-beet (both of these are genetically modified) source of Vit C. For our cancer IV’s we definitely use this source of Vit C for its biological activity.
4. The problem with corn is that it is the #2 allergen in the USA. This potentially causes down regulation (suppression) or up regulation (auto-immune like) of the immune system. Vit C derived from corn can also still have corn residue from being genetically modified to produce its own pesticides and herbicides. Genetically modified corn fed to dairy cows in Germany killed major portions of the herd. Now it is illegal in Germany and Japan to produce products from genetically modified corn.
5. Sailors got scurvy (a Vit C deficiency disease) and their teeth fell out and would bruise with a slight blow to the skin. This was because Vit C is very involved with connective tissue formation. The difference between carcinoma *in situ* and a metastasis is that the basement membrane has been breached in a metastasis and the cancer is now spreading outwards. It is helpful for Vit C to establish a strong connective tissue basement membrane to potentially help stop future metastasis.
6. Vit C normally acts as an anti-oxidant when used in lower doses. In pharmacologic IV doses of 50 to 200 grams (50,000 to 200,000 mg), Vit C acts as an oxidant. These high doses release hydrogen peroxide that is detrimental to cancer cells. Normal cells have the enzyme catalase to detoxify the hydrogen peroxide and the other reactive oxygen species (ROS). Cancer cells are grossly deficient in catalase and so are not protected in a high Vit C concentration. Normal cells can easily tolerate the same dose and so this is a very effective means to target cancer cells while leaving normal cells intact.
7. Ultimately the question is “What are the results?”. Please see “Treatment Case Studies” for various cancer’s clinical outcomes with this protocol.

Further Explanation of Vit C Action:

The Intake of Ascorbic Acid Killed Cancer Cells.

"Human pharmacokinetics data indicate that i.v. ascorbic acid (ascorbate) in pharmacologic concentrations could have an unanticipated role in cancer treatment. Our goals here were to test whether ascorbate killed cancer cells selectively, and if so, to determine mechanisms, using clinically relevant conditions," investigators in the United States reported.

"Cell death in 10 cancer and 4 normal cell types was measured by using 1-h exposures. Normal cells were unaffected by 20 mM ascorbate, whereas 5 cancer lines had EC50 values of <4 mM, a concentration easily achievable i.v. Human lymphoma cells were studied in detail because of their sensitivity to ascorbate (EC50 of .5 mM) and suitability for addressing mechanisms," explained Q. Chen and colleagues, U.S. National Institute of Diabetes and Digestive and Kidney Diseases.

"Extracellular but not intracellular ascorbate mediated cell death, which occurred by apoptosis and pyknosis/necrosis. Cell death was independent of metal chelators and absolutely dependent on H2O2 formation. Cell death from H2O2 added to cells was identical to that found when H2O2 was generated by ascorbate treatment. H2O2 generation was dependent on ascorbate concentration, incubation time, and the presence of .5-10% serum, and displayed a linear relationship with ascorbate radical formation. Although ascorbate addition to medium generated H2O2, ascorbate addition to blood generated no detectable H2O2 and only trace detectable ascorbate radical."

The researchers concluded, "Taken together, these data indicate that ascorbate at concentrations achieved only by i.v. administration may be a pro-drug for formation of H2O2, and that blood can be a delivery system of the pro-drug to tissues. These findings give plausibility to i.v. ascorbic acid in cancer treatment, and have unexpected implications for treatment of infections where H2O2 may be beneficial."

Chen and colleagues published their study in Proceedings of the National Academy of Sciences of the United States of America (Pharmacologic ascorbic acid concentrations selectively kill cancer cells: Action as a pro-drug to deliver hydrogen peroxide to tissues. Proc Natl Acad Sci USA, 2005;102(38):13604-13609).

For additional information, contact M. Levine, U.S. National Institute of Diabetes and Digestive and Kidney Diseases, Molecular & Clinic Nutrition Sect, NIH, Bldg 10, Room 4D52, MSC-1372, Bethesda, MD 20892, USA.

The publisher of the journal Proceedings of the National Academy of Sciences of the United States of America can be contacted at: National Academy Sciences, 2101 Constitution Avenue NW, Washington, DC 20418, USA.

The Following is a Comparison of Corn-Source and Non Corn-Source (*Cassava root derived*)_Vitamin-C

Invitro Apoptosis (Destruction) of Cultured, Human Cancer Cells
K562 Erythroleukemic Cells (Human Leukemia Cancer cells)

Apoptosis Data

Control (negative-cell growth media)	6 to 9 %
Control (positive-Camptothecin)	37.8 %
Corn Source Vitamin-C (5 mcg/ml media concentration)	9.6 %
(Non Corn-Source Vitamin-C) (5 mcg/ml media concentration)	<u>38.4 %</u>

Cassava root derived Vit C demonstrates 4-times the selective killing of human Leukemia Cancer Cells in a laboratory study, compared to normal intravenous corn-derived Vitamin-C.

Vitamin C, like other vitamins and antioxidants, has been accused of interfering with chemotherapeutic agents.

To this accusation, we offer the recently published data by Dr. Kedar Prasad* of the University of Colorado.

Combinations of Vitamin C and Conventional Agents

Agent Used	<u>Decrease in Cancer Growth</u>
Vitamin C**	-5.0 %*
5-FU	38.0%
5-FU + vitamin C	95.5%
X rays	72.0%
X-rays + vitamin C	98.2%
Bleomycin	73.0%
Bleomycin + Vitamin C	92.0%

*not statistically significant

****Corn based – NOT Cassava root derived**

*Prasad KN, Kumar A, Kochupillai V & Cole WC. High Doses of Multiple Antioxidant Vitamins: Essential Ingredients in Improving the Efficacy of Standard Cancer therapy. *Journal American College of Nutrition* 18:13-25, 1999

This is a portion of an article taken from the following website:

http://www.seanet.com/~alexs/ascorbate/198x/smith-lh-clinical_guide_1988.htm

**The Clinical Experiences of Frederick R. Klenner, M.D.,
abbreviated, summarized and annotated by
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“Vitamin C will control myelocytic leukemia with 25-30 grams orally daily. “How long must we wait for someone to start continuous ascorbic acid drip for two to three months, giving 100 to 300 grams each day, for various malignant conditions?”

Small basal cell epithelioma: 30% Vitamin C ointment.

He cites a disturbing study: particles resembling viruses were found in some breast milk samples of women with breast cancer. Could this help to explain why some cancers seem to be “inherited?” It makes sense that all members of cancer prone families should be taking at least ten grams of C daily.

His protocol for treating cancer is printed here in total, although I do not understand the rationale for some of the ingredients. All of this is designed to kill the cancer cells by shoring up the immune system. He even recognized the therapeutic value for a positive attitude.

1. Use radioactive cobalt when and where indicated.
2. Give 45 grams of sodium ascorbate intravenously every twelve hours for one month. Then use 60 to 65 grams in 500 cc of normal saline or 5% dextrose in water for five days a week until a cure is obtained. It usually takes five months.
3. Each bottle is to contain one gram of calcium gluconate, a cc of some B complex, plus 1,200 mg of thiamin, 300 mg of pyridoxine, and 600 mg of niacinamide.
4. Oral sodium ascorbate, 5, 10, 20, grams daily. The dose depends upon the bowel tolerance.
5. Vitamin A palmitate, 50,000 units, daily, orally.
6. Pantothenic acid, (B5) one gram orally four times a day.
7. Amino acid protein powder with all the eighteen amino acids. 60 tablets each day or, if a powder, several tablespoons daily. This supports the immune system and the enzymes. Tyrosine should be taken separately, if possible, as this one makes the others work better; 500 mg tablets—six daily.
8. In addition, a high protein diet using white chicken meat, fresh fish, chicken livers, and brown-shelled eggs. Beef (but once a week) should be as lean as possible: lean stew beef or sirloin tip are the best but have the butcher grind it three times.

Hamburgers? Only once a week. No sugar and no starches. Fruit and fruit juices are permitted. Almonds are excellent.

9. 30 to 40 apricot almonds should be chewed every day in divided doses until a continuous bitter almond taste develops. At this point the patient cuts the dose in half. "This will form cyanide by way of the stomach acid. Cyanide will kill cancer cells. Vitamin C will protect one against the lethal effects of cyanide. It is the antidote. 500 mg tablets of vitamin B₁₇ are available. One after each meal and at bed time." (Not everyone would agree with this part of the therapy. Cancer victims are still getting amygdalin B₁₇, as injections from Mexico, but there is some doubt as to its efficacy. LHS)
10. Vitamin E, d-alpha tocopheryl acetate, 400 International unit size, 3,200 units daily. Don't take iron with it.
11. One pint of grape juice daily.
12. B complex tablets with 100 mg of each of the B's and 100 mcg of B₁₂. Six to eight tablets daily. Theragran-M or a similar capsule with all the minerals to replace what is being pulled out by the C.
13. Maintain the hemoglobin at 13 grams.
14. Keep a good attitude.

He reported a case of a man with lymph glands all over his body. He got the above treatment and although the glands increased in size for a while, his liver and spleen were back to normal size in four months. Dr. Klenner noticed a 'parachute-like' substance in the urine. Microscopic examination revealed they were clumps of cancer cells.

Another case was that of a woman who had an adenocarcinoma of two years duration. She had had chemotherapy, two surgeries and extensive radiation over her chest, especially the neck area where the cancerous glands were. The cancer had spread to her lungs, her abdomen and six glands in her neck. Dr. Klenner gave her the above protocol. In three months the lesion in her lung had cleared and gone were the glands in her neck. After six months of intravenous Vitamin C and the B complex, the abdominal masses had disappeared, but she could not swallow food. The radiation had scarred her esophagus beyond dilatation and she refused more surgery. The cancer was gone; she died from starvation due to the radiation.

Dr Klenner summarized this paper with this: "The results suggest that larger daily amounts could be given in a hospital with faster results. I would suggest at least 100 grams in 1000 cc of fluid and given every twelve to 24 hours. The vitamins and the calcium gluconate also must be given." He thought interferon could be assayed while the patient is in the hospital. **"How long will it take for the general population to challenge the drug cartel?"**