Cancer Treatment and Alternative Therapy: The History of Vitamin C

In the 1970s, Linus Pauling and his colleagues administered high dose vitamin C (10 grams per day intravenously, followed by at least 10 grams orally) to terminal cancer patients. This therapy was helpful in increasing survival time and improving quality of life. Subsequent to Pauling's studies, two randomized placebo-controlled studies conducted at the Mayo clinic found no differences in outcome between terminal cancer patients receiving 10 grams per day orally or placebo. The obvious difference between the Mayo clinic studies and the Pauling studies, was that The Mayo clinic did not use intravenous vitamin C.

In the 1990s, Hugh Riordan, MD and colleagues demonstrated that most tumor cell types, when exposed to a vitamin C concentration of 400 mg/dl in a culture medium, quickly die, while normal cells remain unaffected. Concentrations such as listed above can only be achieved through intravenous administration.

In August of 2005, Mark Levine, MD and colleagues, from the National Institutes of Health, performed a study similar to that of Hugh Riordan. They took several different cancer cell lines as well as normal cells, and exposed them to vitamin C in a culture medium. Using vitamin C concentrations only achievable through intravenous administration, Dr. Levine found that 5 different cancer cell lines died, while normal cells were unaffected. The mechanism of death to cancer cells was high levels of intracellular hydrogen peroxide which were produced in response to the vitamin C.

Since the 1970s, many human cancer patients have been treated with regular infusions of high dose intravenous vitamin C. Some patients have been reported to be cured, while some went on to live many years with their cancer. Unfortunately, there are no large randomized, placebo-controlled, double blind studies with IV vitamin C, as are done with all new FDA approved drugs. Most studies such as these are funded by large pharmaceutical companies. Vitamin C simply has not grabbed the attention of the pharmaceutical industry, because a patent cannot be obtained on vitamins. There is little money to be made from large investments in vitamin research. Many of us are hopeful, however, that the study performed by Dr. Levine with the NIH will inspire a new avenue of research.

The use of intravenous Vitamin C for the treatment of cancer in veterinary medicine is in its infancy. Clinical results indicate that the use IV Vitamin C in animals produces similar beneficial results in the treatment of cancer. IV Vitamin C has been shown to have significant anti-tumor effects, prolong survival times, prevent side effects of chemotherapy drugs and radiation and improve the quality of life.