Intravenous vitamin C for cancer

written by Dr. Ronald Hoffman | October 4, 2013

For more than 20 years, the Hoffman Center has been using high-dose vitamin C drips in its cancer support protocols. The initial impetus was from Linus Pauling who, together with Ewan Cameron, pioneered the use of high-dose C in cancer in the 1960s.

Now, there's new interest in this modality for fighting cancer based on new, exciting research under way at the National Institutes of Health.

Cameron and Pauling found that vitamin C helped cancer patients live about four times longer than cancer patients not given vitamin C. They administered high-dose vitamin C in the form of sodium ascorbate given orally and intravenously to treat more than 1,000 cancer patients.

Nonetheless, vitamin C for cancer suffered a setback when Dr. Charles Moertel of the Mayo Clinic, an arch foe of nutritional therapies for cancer, sought to disprove Pauling's thesis. But he did not follow the Pauling/Cameron instructions or regimen.

Moertel selected a cohort of terminal colon cancer patients who had not responded to all forms of conventional treatment, including surgery, chemo and radiation, and administered 10 grams of vitamin C to them orally. When the patients failed to demonstrate improved survival over patients not receiving vitamin C in the study, Moertel pronounced the vitamin C/cancer hypothesis defunct.

Moertel failed to note that the benefits achieved by Pauling and Cameron's patients were obtained via both IV and oral C. He ultimately succumbed to cancer himself years later.

Alternative practitioners, meanwhile, sought to resurrect IV vitamin C as a tool in the treatment of cancer, but not until recently has serious academic research resumed.

Dr. Hugh Riordan of Kansas treated hundreds of cancer patients with doses of vitamin C up to 200,000 mg (200 grams) per day in infusions lasting 4-12 hours several times a week. He compiled a series of case histories documenting impressive responses but passed recently, before his work was generally acknowledged.

His protegee, Dr. Jeanne Drisko, Director, KU Integrative Medicine, has undertaken a series of clinical trials to validate the benefits of IV vitamin C in cancer. An FDA approved trial is now underway.

Research at the National Institutes of Health is beginning to suggest that vitamin C deserves another chance to find its niche in the arsenal of anti-cancer therapies. Studies now suggest that even high dose vitamin C given by mouth is poorly absorbed. Blood levels "max out" at doses of 500 mg given several times during the day.

But vitamin C given intravenously is another story. When delivered in a “drip,” much higher concentrations of C can be attained. At these higher concentrations, vitamin C has different characteristics than if given orally. While oral vitamin C boosts immunity and assists tissue repair, it is too weak to do much to kill or inhibit cancer cells. But at high doses delivered directly into the bloodstream, it may act to increase levels of hydrogen peroxide deep in the tissues where cancer cells lurk. Peroxide-mediated killing is one of the white blood cells’ key mechanisms for fighting infection and cancer.

Research currently under way has shown that high concentrations of vitamin C can stop the growth or even kill a wide range of cancer cells. Only intravenous administration of vitamin C can deliver the high doses found to be effective against cancer.

IV vitamin C, when administered by a trained, experienced physician, is safe and well-tolerated, even at doses as high as 100,000 mg (100 grams) per day. Proper blood tests must be done to ensure that it is well-tolerated, and the patient must be monitored. Doses must be gradually adjusted upward. Not all patients are candidates for IV vitamin C. Vitamin C can be safely administered even while patients are undergoing chemo and radiation; in fact, the FDA-approved trial at the University of Kansas Medical Center explicitly permits the co-administration of vitamin C with conventional treatments.

Intravenous vitamin C remains one of the key modalities employed by the Hoffman Center in support of recovery from cancer, and it is hoped that additional research, now under way, will further document its benefits.