



High-Dose Vitamin C (25-50g) - IV Drip

What is High-Dose Vitamin C IV?

Vitamin C at low doses is well known as an antioxidant; however high dose vitamin C (HDVC) administered intravenously becomes pro-oxidant. With regards to cancer, HDVC reacts with oxygen to generate free radicals and hydrogen peroxide in the body's connective tissue. These pro-oxidant molecules can then selectively destroy cancer cell DNA while leaving health cells unharmed. Vitamin C has been shown to inhibit tumour growth and metastasis.

The high-dose vitamin C (ascorbic acid) intravenous protocol was originally developed in the 1940's by Frederick Klenner, MD and more recently was further researched by Dr. Linus Pauling PhD and Dr. Ewan Cameron MD for its therapeutic use in cancer care. Vitamin C also enters all cells, acts as a respiratory catalyst, potent antioxidant and aids in liver detoxification. In addition to these biological activities, vitamin C is a cofactor for various enzymes particularly in those involved in immune, nerve and bone cells.

The role of vitamin C in the synthesis of collagen, carnitine, neurotransmitters and neuropeptides is essential for wound healing, energy metabolism and nervous system function. Vitamin C also works as an antiviral by interfering with viral protein-coat production which prevents the assembly of new viral units. In the face of disease, cancer, toxins and bacteria, our levels of vitamin C are reduced and require replenishment.

All of these effects justify using IV vitamin C generally in patients to enhance immune function and specifically in cancer patients to improve quality of life, protect against side-effects of chemotherapy/radiation and induce anti-proliferative effects. As the concentration of oral vitamin C is tightly controlled in plasma and tissues, it is necessary to give vitamin C intravenously in order to reach pharmacologically active doses. Intravenous vitamin C is superior to oral doses due to its bypass to the digestive system which is an energy and dose-dependent process. With doses greater than 2g, less than 20% is actually absorbed; leaving a large quantity of vitamin C in the intestinal lumen that collects water and leads to gastrointestinal cramping, bloating, and diarrhea.

The mechanism of action of high doses of vitamin C has been shown to its ability to react with oxygen and generate free radicals and hydrogen peroxide in the body's connective tissue, thus becoming pro-oxidative. These molecules can then selectively destroy cancer cell DNA while leaving healthy cells unharmed. Hydrogen peroxide is involved in many immune reactions throughout the body. In healthy cells, hydrogen peroxide is absorbed and sequestered by intra-cellular antioxidants.

In cancer cells however, there is a deficiency in such protective antioxidants, allowing the hydrogen peroxide to build up and eventually lead to apoptosis (programmed cell death). For this reason, high dose Vitamin C may be administered intravenously as part of a cancer treatment program.

Uses

- Cancer
- Anti-viral

Ingredients

- Ascorbic Acid (25-50g)
- Magnesium Chloride
- Calcium Chloride
- Potassium Chloride
- Procaine 2%

Duration

2.5-3 hours



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Side Effects

Common

- Bruising at IV access site
- Fatigue
- Dizziness
- Pain/aching at injection site (can be minimized with slower infusion)
- Nausea
- Hypoglycemia

Rare

- Allergic reaction
- Hemolysis (if G6PD deficient)

Patient Prep

- Drink at least 0.5-1L of water before treatment
- Ensure you have had a substantial meal 1-2 hours before treatment
- Inform your practitioner or lab technician of any new medications prescribed by your medical doctor
- Bring water, juice, and a snack to avoid hypoglycemia (low blood sugar) from occurring during treatment
- Bring any reading material, music, etc, to make your session more enjoyable

Please inform a lab technician and/or your doctor if you have any allergies; have a history of any reaction to intravenous treatment; are pregnant or breastfeeding; are taking blood sugar lowering medications, thyroid medications, immunomodulating medications, or cancer medications; or have any concerns regarding this treatment.

Please consult with your ND if your condition worsens.

If you have any questions, please contact us at (604)738-1012, ext.1

Frequently Asked Questions

How many treatments are required?

Vitamin C may be administered in dosages up to 1.5g/kg three times per week with a positive safety profile. Your practitioner will determine the dosage most appropriate for you.

What can I expect?

Most patients report increased energy levels, improved sleep and mood, relief from the adverse effects of chemo or radiation therapy, and increased quality of life. Common side effects of IV vitamin C can include:

- An increased urge to urinate as vitamin C is a diuretic
- Feelings of nausea or fatigue immediately following treatment
- Dizziness or light headedness if a significant drop in blood pressure or blood sugar is experienced

Procedure

In order to proceed with high-dose vitamin C, assessment of G6PD deficiency must be tested. A blood sample will be drawn for testing prior to beginning treatment.

This IV has one component, administered from a hanging intravenous bag into a single IV access site.

Dose is built up to tolerance in the patient.

Notes
