

High Dose IV Vitamin C (HDIVC) in Marginal Kidney Function

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HDIVC in cases of marginal GFR:

HDIVC is a transient kidney stress. In the presence of other therapies like chemotherapy and dehydration this can be additive in stressfulness to the kidney function. That said during the many years and tens of thousands of HDIVC administrations I have ordered the frequency of oxalosis or GFR decrease has been nonexistent. There are two reported cases in the literature [1] but those were in people we would have never infused with HDIVC due to poor GFR prior to treatment.

Renal function and G6PD based screening:

The standard screening I set for the BIORC research study was as follows:

eGFR	IV Rx. [2]	Frequency of re-testing
>60	*Standard [2]	every 4-6 weeks
40-60	*Standard [2]	every week until proven stable
21-40	*Modified	36-48 hrs post every IV until proven stable
<20	Hydration or QOL formulas only	

Assessment of dose adjustment in altered eGFR:

The only way to assess dose effect in the patient with eGRF <40 is a therapeutic trial. Below is our standard protocol which has proven safety and efficacy in over 1000 cases:

1. Patient has baseline labs drawn (or patient on active therapy has an eGFR slip below 40).
2. Patient has 1-3 IV infusions at the lowest end of the body weight dose (Range is 0.4 to 1.5 grams / kilogram body weight [3,4,5]) these infusions are dosed at 0.4 grams per kilogram.
3. Labs are re-run (never draw electrolytes or kidney labs within 24 hours of HDIVC).
4. If labs are stable or improved IV infusions progress with predetermined monitoring
5. If labs worsen then a clinical decision is made as to risk-benefit of infusion and monitoring frequency required to keep the therapy safe.

References:

1. Padayatty SJ, Sun AY, and Chen Q, et al. (2010) Vitamin C: Intravenous Use by Complementary and Alternative Medicine Practitioners and Adverse Effects. PLoS ONE 5(7): e11414:1-8. PMID: 20628650.
2. Anderson P. "Intravenous Vitamin C in Naturopathic Oncology." Scientific Presentation. Oncology Association of Naturopathic Physicians. Scottsdale, Arizona. 2012.
3. Chen, et.al. Ascorbate in pharmacologic concentrations selectively generates ascorbate radical and hydrogen peroxide in extracellular fluid in vivo .www.pnas.org doi:10.1073:pnas.0702854104 PNAS, May 22, 2007. vol. 104. no. 21; 8749–8754
4. Hoffer L, LevineM, Assouline S, Melnychuk D, Paddayatty S, Rosadiuk K, et al. Phase I clinical trial of i.v. ascorbic acid in advanced malignancy. Ann Oncol 2008.
5. Verrax J, Calderon PB. The controversial place of vitamin C in cancer treatment. Biochemical Pharmacology 76 (2008) 1644–1652

*Note: "Standard" HDIVC therapy for adults is the 25, 50, 75 gram escalation as published in reference 2 above. Modified can be 10, 15, 15, etc... as decided by the practitioner. All formulas assume the IVC is balanced with the chloride salts of Mg/K/Ca as described in that same presentation.