IV Therapy Use and Compatibility Chart

Item #	Therapy / Agent	Potential MOA	Compatibility	Notes
1	**Ascorbate – Low dose**	Antioxidant, VEGF inhibitor, QOL, Chemo/Rad sensitizer,	4,5,6,7,8,9,10,-19	a, e
2	**Ascorbate – High dose**	Oxidant – ROS Burst, VEGF inhibitor, Chemo/Rad sensitizer,	3,4,5,6,18,19	b
3	**Artesunate**	Oxidant - ROS Burst, Immune modulator (opposes autoimmune TH imbalance)	2,4,5, 19	c, d, e, g
4	**DCA**	Alkylating agent, Metabolism switching – aerobic facilitator, ROS generator	1,2,3,5-18	d
5	**Vitamin K**	Oxidant [K3], Growth and Cell Cycle arrest [K1,2]	1-19 [depending on form]	e
6	**Germanium**	Natural Killer Cell function enhancer, TNFg inducer, T-cell inducer, SOD enhancer	1-19	d, f
7	**Transition metals**	Cofactor support	1, 4-19	e, f
8	**B-Vitamins**	Cofactor support	1, 4-19	e, f
9	**Glutathione**	GSH donor, QOL, Chemo sensitization	1, 4-19	d, e
10	**ALA**	GSH support, antioxidant, QOL, GLUT-receptor stimulator, NF(k)B stabilizer, Tumor cell anti-proliferation / Apoptotic agent	1, 4-19	d, e
11	**LAMC [Poly-MVA]**	GSH / mitochondrial support, Metabolism switching – aerobic facilitator, Apoptotic agent, HIF-1 inhibitor, QOL	1, 4-19	d, e
12	**Curcumin**	Antioxidant, Immune modulator, NF(k)B inhibitor, affects growth factor receptors and cell adhesion molecules involved in tumor growth, angiogenesis and metastasis	1, 4-19	d
13	**Resveratrol**	Chemo sensitizer, Affects - cell growth, inflammation, apoptosis, angiogenesis, and invasion and metastasis. Potential as antioxidant and pro-oxidant.	1, 4-19	d
14	**Silibinin**	Hepatic GSH support, Chemo sensitizer, Prevention of chemotherapy induced toxicity, immunomodulator, QOL	1, 4-19	d
15	**Quercetin**	Antioxidant, antiproliferative and antimutagenic, apoptosis inducer	1, 4-19	d
16	**Calcitriol**	Taxane and Platin enhancer, Apoptotic agent, Antiproliferant, Hedgehog signal inhibitor, cell cycle arrest, differentiation, angiogenesis and inhibition of cell invasiveness	1, 4-19	d
17	**EGCG**	Chemo preventive, Inhibition of heat shock proteins, Ascorbate synergist (potential)	1, [2?], 4-19	d
18	**Phospholipids**	Lipid exchange, Membrane stabilizer, Acetylcholine primer, etc.	1-20	d, g
19	**Silver Hydrosol**	Disruptor of: Infectious agents & biofilms. Potential oncologic uses	1-3; 5-18	d, g
20	**H2O2, Ozone**	Cytokine stimulant (via ReDox + Enzymatic activity in plasma) PMID: 19260079, 20335512	* h	←
21	**UV Blood Irradiation**	Multiple MOA - PMID: 6182067, 2631372, 2389276	* i	

Notes:

a – 'Low' dose is considered under 15-20 grams

b – 'High' dose is over 15-20 grams but may reach 100-200 grams

c – Generally given directly prior to other oxidant IV's

d – Compatible in the same time period; not in the same IV bag

e – Compatibility depends on form of vitamin K

f – Compatible with water soluble IV formulas

g – Based on multiple MOA may be used in both ReDox environments

h – Based on MOA, pure oxidative enzymatic agents such as H2O2 + O3 should be allowed to work on their own for a period of time. The downstream enzymatic cytokine cascade from these therapies can proceed for hours following administration. In protecting this cascade and maximizing its effectiveness the recommendation is to have no other IV therapy for 4-6 hours after these IV's.

i – MOA are complicated and not fully elucidated. Based on the available data it would be reasonable to consider that UVBI could be used in series with most other therapies. Some data [PMID: 20335512] show that O3 + UV (and possibly O3 alone) do speed ascorbate oxidation – so a theoretical benefit may exist in coupling oxidant ascorbate therapy and UV or UV+O3.

All information provided is based on literature review as of 08-2015 and every attempt to ensure accuracy has been made. This information is subject to change as data emerge. The clinician should exert final judgment prior to implementing any therapy mentioned in this summary. References for all mechanistic statements are contained in the IV Therapy notes presented separately. BCRC – Bastyr Clinical Research Center; SCRI – Southwest College Research Institute.