

IVC's "Sweet 16" Life Qualities for Patients Around the World With Serious Diseases

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Below is compilation of quotes from 12 different studies around the world, retrieved from respected peer reviewed medical journals and research and medical practitioners regarding the quality of life parameters for patients of serious disease (notably various cancers). In the below cases the studies and observations span both clinical trials and observations with populations anywhere from a dozen to thousands of patients. For more information on IVC, additional evidence & modalities of efficacy, patient and practitioner guidance, best practices, fascinating IVC and IVC+ technologies in development please read ["The IVC Book ... Cancer-Curative IVC, demystified from 50+ disruptive studies."](#) Again, these QOL results span across all diseases, not just cancer (the bulk of these studies).

16 Palliative Benefits of IVC (as extracted from the 12 globe-spanning studies below)

- less pain
- less fever
- less bleeding
- easier to breathe
- better functioning
- better sleep
- less fatigue
- less dizziness
- better appetite
- less nausea
- less vomiting
- better bowel function
- sense of well-being
- improved mood
- less anxiety
- better cognitions

Note: In many cases, perhaps most, these benefits are experienced generally throughout a course of treatment, and in fact the patient may temporarily experience some mildly contrary results during the administration (such as lethargy, swollen tongue), related to a hypoglycemic response from the IVC occupying all the glut-transporters of the cells during administration. This generally means all cells are getting the maximum dose of IVC, which is the ideal case. If side effects extend to multiple days then cutting dose, or providing administration breaks while increasing frequency might be better for them (eg. early morning and an afternoon dose, same-day clinic visit). Abandoning treatment because of an adverse temporary effect is unfortunate when dose and rate are easily adjusted, and as shown herein even low doses (if frequent enough) can still cause a strong QOL response.

See Table, next page

Study	Sample Size	Dose		QOL (Quality Of Life) Factors		
		IVC	Oral	Increased	Decreased	Notes
1) Germany 22021693	53 IVC / 72 Control	7.5g, 1x/week		More appetite, Rest	Less nausea, fatigue, depression, dizziness, bleeding, & complaints	
2) Korea PMC2693571	39 Terminal Patients	2*10g, 3x/week	4g daily	More physical, cognitive, emotional functioning	Less fatigue, nausea/vomiting, pain, & appetite loss	Standardized QOL measurement: QLQ-C30 questionnaire
3) China 14606098	44 IVC / 40 Control	10g/day for 5 days		Faster recovery (shorter hospital stay)	Less fevers, vomiting (disappeared), & complications	The only study here not for cancer, but pancreatitis (often leads to pancreatic cancer).
4) Japan see #4 below	60 Newly Diagnosed	25g – 100g 2x wkly for 4 wks	2g - 4g Daily	More emotional, cognitive & social, physical and role functioning;	Less fatigue, nausea, vomiting, pain, dyspnea, insomnia, appetite loss, constipation, & diarrhea	Average 38% QOL improvement (QLQ-C30 questionnaire)
5) Canada 18544557	24 Patients	0.1-1.5g 3x/wk	1g.C+800UI vit E	Only the higher IVC doses “maintained their physical quality of life throughout the trial”		
6) With Chemo 24500406	27 Ovarian, Stages 3,4	75 to 105 grams, w/ chemo		More energy, survival time (extended by 8.75 months). All standard QOL issues (QLQ-C30) improved.	Less chemotherapy toxic effects.	Improvement areas: neurological, bone marrow, hepatobiliary/pancreatic, renal/genitourinary, pulmonary, infection, gastrointestinal, and dermatological
7) Case Studies PMC4199254	multiple, with chemo	30g-50g, 2/wk		same as Korea/Japan above	same as Korea/Japan above	QLQ-C30, “complete cessation of pain, nausea/vomiting, and insomnia”
8) Riordan clinic see #8 below	40,000+ treatments	65g, 3x/week	4g daily	More “sense of well being”	Less pain	Improved QOL “by a variety of metrics”
9) Max Dose PMC3691494	17 Terminal Patients	60-200g, 4X/wk		Improvement in all standard QOL factors except constipation (no change), <i>the greatest improvement occurring in week 4.</i>		*All* doses were “well tolerated”, including the 200g per administration.
10) W/ Surgery PMC5107231	97 Patients	50mg/kg with surgery		Statistically significant decrease in pain and morphine use compared to standard. Note this is a very low dose, about 3 grams ... corresponds with what is possible with megadose oral consumption.		
11) A.Hoffer see #11 below	101 IVC / 33 Control	2.5g, 2x/week	12g Vit C , multivit.	“A lot more cheerful ... less discomfort, less pain, less anxiety”.		
12) Scotland see #12 below	5 IVC / 100+ Control	10g/daily		The first IVC study. Diminished the pain from tumor growth enough to discontinue morphine.		

Please see below for references and more info on each study

1) German Study

Increased: appetite, and rest.

Decreased: nausea, fatigue, depression, dizziness, bleeding, and complaints (all halved, compared to control)

QOL doubled, negative side-effects non-existent

Patient Sample size: 53 IVC / 72 Control

IVC Dose: 7.5g, 1x/week

Details:

Vitamin C administration resulted in a significant reduction of complaints induced by the disease and chemo-/radiotherapy, in particular of nausea, loss of appetite, fatigue, depression, sleep disorders, dizziness and haemorrhagic diathesis. After adjustment for age and baseline conditions (intensity score before adjuvant therapy, chemotherapy, radiotherapy), the overall intensity score of symptoms during adjuvant therapy and aftercare was nearly twice as high in the control group compared to the study group. No side-effects of the i.v. vitamin C administration were documented. ...helps to prevent or reduce disease-, or therapy-induced complaints in breast cancer patients.

- *"Intravenous vitamin C administration improves quality of life in breast cancer patients during chemo-/radiotherapy and aftercare: results of a retrospective, multicentre, epidemiological cohort study in Germany"*.

- Vollbracht C1, Schneider B, Leendert V, Weiss G, Auerbach L, Beuth J.

In Vivo. 2011 Nov-Dec;25(6):983-90.) Pubmed 220221693

<http://www.ncbi.nlm.nih.gov/pubmed/22021693>

<http://iv.iijournals.org/content/25/6/983.long> (full text)

2) Korean Study

Increased: QOL, Physical, Cognitive, Emotional, Appetite

Decreased: Fatigue, Nausea/Vomiting, Pain

Patient Sample size: 39 terminal cancer patients

IVC Dose: 2*10g, 3x/week

Oral Dose: 4g daily

Details:

Study of 39 terminal cancer patients in Korea that used 10 grams of IVC twice per week.. The study found clear evidence of improved quality of life, with improved physical, cognitive and emotional function. The patients also had significantly less fatigue, nausea, pain and appetite loss.

- *"Changes of terminal cancer patients' health-related quality of life after high dose vitamin C administration."*

- Yeom CH1, Jung GC, Song KJ.

J Korean Med Sci. 2007 Feb;22(1):7-11

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2693571/> (full text)

3) Chinese Study (Pancreatitis IVC)

Increased: Recovery (shorter hospital stay)

Decreased: Fever, Vomiting (disappeared), Complication rate

Patient Sample Size: 44 IVC / 40 Control

IVC Dose: 10g/day for 5 days for the “treatment group”

Details:

Note that this was IVC for treating pancreatitis (not cancer), but for palliative analysis the QOL factors are the same: “Fever and vomiting disappeared, and leukocyte counts and amylase in urine and blood become normal quicker in the treatment group than in the control group [suggesting decreased infection / inflammation]. Moreover, patients in treatment group also had a higher cure rate, a lower complication rate and a shorter in-ward days” - with respect to this last item please again note that it was not cancer from which they were cured, but is included for consideration of generally improved immune system response from IVC. Incidentally, pancreatitis can lead to pancreatic cancer which is one of the most deadly kinds of cancer (less than 8 month survival on average).

- *Therapeutic efficacy of high-dose vitamin C on acute pancreatitis and its potential mechanisms.*

- Du WD, Yuan ZR, Sun J, Tang JX, Cheng AQ, Shen DM, Huang CJ, Song XH, Yu XF, Zheng SB

World J Gastroenterol. 2003 Nov;9(11):2565-9.

<http://www.ncbi.nlm.nih.gov/pubmed/14606098>

<http://www.wjgnet.com/1007-9327/full/v9/i11/2565.htm> (full text)

4) Japanese Study

Increased: Physical & role function quality; emotional, cognitive & social quality.

Decreased: Fatigue, nausea, vomiting, pain, dyspnea, insomnia, appetite loss, constipation, diarrhea

Nearly all patients experience significantly improved QOL (average 38% QOL improvement).

Patient Sample Size: 60 newly diagnosed patients

IVC Dose: 25g – 100g 2x weekly for 4 weeks

Oral Dose: 2g - 4g Daily

Details:

“In the symptom scale, significant relief was observed, especially in the score of fatigue, pain, insomnia, constipation, and financial difficulties.” Only 2-3 patients (out of 60) experienced diminished quality of life (“adverse events were mild, and none of the patients discontinued the therapy because of adverse reactions to IVC”). What makes this study significant is the use of “newly diagnosed patients”, who normally are not experiencing significant QOL issues to start with, so a 38% QOL improvement in that case is very significant.

- *High-dose intravenous vitamin C improves quality of life in cancer patients*

- Hidenori Takahashiemail, Haruyoshi Mizunoemail, Atsuo Yanagisawa

Personalized Medicine Universe 1 (2012) 49-53

[http://www.personalizedmedicineuniverse.com/article/S2186-4950\(12\)00013-2/fulltext](http://www.personalizedmedicineuniverse.com/article/S2186-4950(12)00013-2/fulltext) (full text)

5) Canadian (Varying Dosage) Study

Only the higher IVC doses “maintained their physical quality of life throughout the trial”

Patient Sample Size: 24 total, split among 6 groups of varying dosages

IVC Dose: Six different groups: 0.1g/kg, 0.2g/kg, 0.4g/kg, 0.6g/kg, 0.9g/kg, 1.5g/kg; 3X weekly

Oral Dose: 1g Vit C plus 800UI vitamin E; Daily.

Details:

All patients in the bottom 3 groups “experienced a significant deterioration in physical function”. Only those groups with 0.6g/kg and higher “maintained their physical quality of life throughout the trial”.

- *Phase I clinical trial of i.v. ascorbic acid in advanced malignancy*

- L.J.Hoffer, M.Levine, S.Assouline, D.Melnychuk, S.J.Padayatty, K.Rosadiuk, C.Rousseau, L.Robitaille & W.H.Miller Jr
Annals of Oncology, October 2008

<http://www.ncbi.nlm.nih.gov/pubmed/18544557>

<http://annonc.oxfordjournals.org/content/19/11/1969.long> (full text)

6) “Chemo with IVC” Study

Increased: Energy level, survival time (by 8.75 months)

Decreased: Chemotherapy toxic effects, improvement in all std QOL issues.

Improvement in the following areas: neurological, bone marrow, hepatobiliary/pancreatic, renal/genitourinary, pulmonary, infection, gastrointestinal, and dermatological

Patient Sample Size: 27 patients with newly diagnosed Stage 3 or Stage 4 ovarian cancer. (generally poor prognosis)

IVC Dose: 75 to 105 grams, along with chemotherapy

Details:

“addition of ascorbate reduced toxicities induced by standard chemotherapy in almost all evaluated categories [neurological, bone marrow, hepatobiliary/pancreatic, renal/genitourinary, pulmonary, infection, gastrointestinal, and dermatological], without decreasing survival.” “In those patients, we didn't see any ill effects and we noticed they had fewer effects from the chemotherapy ... It's safe. It's inexpensive ... We should be using this in patients, rather than dragging our feet and worrying about using it at all.”, said lead researcher Dr. Jeannie Drisko. The IVC patients also lived 8.75 months longer than the no-IVC group.

- *High-dose parenteral ascorbate enhanced chemosensitivity of ovarian cancer and reduced toxicity of chemotherapy*

- Ma Y, Chapman J, Levine M, Polireddy K, Drisko J, Chen Q.
Sci Transl Med 5 February 2014: Vol. 6, Issue 222, p. 222

<http://www.ncbi.nlm.nih.gov/pubmed/24500406>

<http://medicalxpress.com/news/2014-02-intravenous-vitamin-boost-chemo-cancer-fighting.html>

7) Well-Documented Case Studies

Increased: Vigor and Physical, Emotional, Cognitive, Social functioning. Patient's global health status doubled.

Decreased: Loss of appetite, 50% less fatigue and complete cessation of pain, nausea/vomiting, and insomnia.

Patient Sample Size: multiple well documented case studies

IVC Dose: 30g to 50g, along with chemotherapy, 2x weekly

Details:

"dramatic decreases in fatigue, pain, appetite loss, nausea/vomiting, and insomnia ...Increases in physical, emotional, cognitive, and social functioning were also observed, as well as a doubling of the patient's 'global health status.' ...The multidimensional fatigue symptomology questionnaire showed decreases in general, physical, emotional, and mental fatigue, as well as increased vigor, following vitamin C administration ... 37% decrease in fatigue and complete cessation of pain, nausea/vomiting, and insomnia, as well as ameliorated loss of appetite, following vitamin C administration. Improvements in physical, emotional, cognitive, and social functioning were also observed, as well as an enhancement of overall QOL. With respect to the multidimensional aspects of fatigue, a decrease in physical, emotional, and mental fatigue, resulting in a 50% decrease in total fatigue, was observed following vitamin C administration." Also noted in the study an observation about conventional care: "Patients with cancer-related fatigue are often prescribed central nervous system stimulants, despite a limited evidence base, and the fact that these are often ineffective".

- *The Effect of Intravenous Vitamin C on Cancer- and Chemotherapy-Related Fatigue and Quality of Life*

Anitra C. Carr, Margreet C. M. Vissers, and John S. Cook

Front Oncol. 2014; 4: 283.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4199254/> (full text)

8) Riordan Clinic Study

Increased: "sense of well being"

Decreased: Pain

Improved QOL "by a variety of metrics"

Patient Sample Size: over 40,000 onsite IVC treatments

IVC Dose: 65g, 3x/week

Oral Dose: 4g daily

Details:

"...improved patient's sense of well being, reduced pain ...IVC has been shown to improve quality of life in cancer patients by a variety of metrics."

www.doctoryourself.com/riordan1.html and <http://www.doctoryourself.com/RiordanIVC.pdf>

9) "Maximum Dose" study

Improvement in all standard QOL factors except constipation (no change), the greatest improvement occurring in week 4, greater than what was seen in all other studies.

Patient Sample Size: 17 patients with solid tumors who didn't benefit from standard treatment

IVC Dose: 60g - 200g / 4X weekly, for up to 4 weeks

Details:

This potentially fascinating study (note that the most critical data, "QOL by dose" and "tumor growth by dose", was oddly left out of the report) was done with the highest IVC doses recorded in a in vivo study (200g per dose), and it recorded the highest weekly dosage ever (up to 800g per week). Based on its findings it suggested around 126g to 150g for "future studies", as "all doses were well tolerated", and blood concentration seemed diminishing returns above these levels.

Patients were in groups of 3, each group ("cohort") maintained it's assigned dosage throughout the 4 weeks of treatment, with no dosage escalation for any patient. No concurrent therapies were administered, but all patients had already received standard oncological treatment and experienced no improvement with standard treatment (ie. these were end-stage cases). Interestingly enough, improvement in QOL appeared to accelerate with time. This may be an aberration due to half of the patients not completing the QOL questionnaire in week 3 and only 2 patients filling it out on week 4. Oddly no explanation was given for this strange omission. The study said "most adverse events were mild and only possibly or probably related to the treatment" [furthermore ...] "These high concentrations of ascorbic acid (both peak and sustained) [up to 200g, 4x weekly] were generally well tolerated.". For those who completed the QOL questionnaire the negative QOL symptoms (which were initially high and manifold) nearly all disappeared.

Phase I clinical trial to evaluate the safety, tolerability, and pharmacokinetics of high-dose intravenous ascorbic acid in patients with advanced cancer .

- Stephenson CM, Levin RD, Spector T, Lis CG
Cancer Chemotherapy and Pharmacology 2013;72(1):139-146
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3691494/?report=reader> (full text)

10) With Surgery

Statistically significant decrease in Pain and Morphine use

Patient Sample Size: 97

IVC Dose: 50mg/kg, which is about 2.5g - 3g per patient

Details:

"This study shows high dose vitamin C infusion decreased postoperative pain during the first 24 h and reduced morphine consumption in the early postoperative period. Additional research needed to examine whether higher doses of vitamin C and longer infusion times can amplify these effects." Note that the infusion started at the beginning of the surgery. Normally it is recommended to hold off on the administration of IVC until the surgery is complete if it is desirable to keep the patient sedated during the surgery, as it can result in greater awareness for the patient. Note also that this is a

very low dose corresponding to what may be possible for some patients by “megadosing” oral vitamin C ... usually in the 12g to 24g range. The effect was also observed to only last a couple hours since the dose was so low.

Effect of Intravenous High Dose Vitamin C on Postoperative Pain and Morphine Use after Laparoscopic Colectomy: A Randomized Controlled Trial.

- Jeon Y1, Park JS2, Moon S3, Yeo J4.
Pain Res Manag. 2016;2016:9147279. Epub 2016 Oct 30
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5107231/> (full text)

11) A.Hoffer Study

“A lot more cheerful ... less discomfort, less pain, less anxiety”

Patient Sample Size: 101 Vitamin C protocol / 33 Control

IVC Dose: 2.5g, 2x/week

Oral Dose: 12g Vit C plus 1500mg Niacin, high dose B-complex, and zinc; Daily.

Details:

“Generally, the patients were a lot more cheerful. They had less discomfort ...I had found that they must be on the program at least two months before it began to work. ...There has been a tremendous decrease in pain and anxiety, even amongst those who were dying.”

- Abram Hoffer, M.D., Ph.D - *Clinical Procedures in Treating Terminally Ill Cancer Patients with Vitamin C*

12) Scotland IVC Study

Pain from Tumoral growth is diminished enough to discontinue morphine

Patient Sample Size: 5 (out of 100+ terminal) who were on morphine for pain

IVC Dose: 10g/daily

Details:

"...pressure develop[s] by the growth of the tumor in a restricted space. This pain frequently requires the use of narcotic drugs. ...the first five ascorbate-treated patients who had been receiving large doses of morphine or heroin to control pain were taken off these drugs a few days after the treatment with vitamin C was begun, because the vitamin C seemed to diminish the pain to such an extent that the drug was not needed."

- page xii of *Cancer and Vitamin C: A Discussion of the Nature, Causes, Prevention, and Treatment of Cancer*, L.P., Cameron (1993)

<http://books.google.com/books?id=GSxWivFqggC&pg=PA83>