

# High-dose IV vitamin C during FOLFIRINOX for Stage IV pancreatic cancer

58M · Stage IV pancreatic cancer · FOLFIRINOX cycle 3 of planned 12 · no other meds · 165 lb (down from 180 pre-diagnosis) · appetite reduced · **Date:** 2026-05-29

## THE HONEST ANSWER

This is a case where the evidence is small and mixed. A couple of small clinical trials in pancreatic cancer suggest that high-dose IV vitamin C can be added to chemotherapy without making things worse — but they don't show it helps you live longer or shrinks tumors. There is one specific safety issue (a condition called G6PD deficiency) that can cause a serious reaction. There's also a lot of online hype that runs ahead of what the actual evidence says. So this isn't a clear yes or no — it's a real "maybe, with eyes open" if you and your team decide to look closer.

## What does the evidence actually say?

WILL IT HELP?



### Maybe

Two small trials in pancreatic cancer show it's tolerable — but neither was set up to prove it helps you live longer.

COULD IT HURT?



### Yes — one real risk

People with an undiagnosed condition called G6PD deficiency can have a serious reaction. A simple blood test before starting is the standard safety check.

## What we found

- 1 High-quality review across 19 studies
- 2 Small clinical trials in pancreatic cancer
- 0 Trials with your exact chemo (FOLFIRINOX) **BIGGEST GAP**
- 1 Documented safety case (G6PD-related) **SAFETY**

## What the research says

- A **2018 review** looked at 19 studies of IV vitamin C in cancer patients. It found IV vitamin C is generally well tolerated. It did not find clear proof that it helps people live longer or shrink tumors.
- A **2013 small trial** of 14 pancreatic cancer patients combined IV vitamin C with a different chemo drug (gemcitabine, not FOLFIRINOX). It was tolerated, and the patients lived a median of 13 months — but there was no comparison group, so this number cannot be read as proof that vitamin C helped.
- A **2012 small trial** of 9 pancreatic cancer patients combined IV vitamin C with FOLFIRINOX (your chemo). It was tolerated — but one patient had a serious reaction because they had an undiagnosed condition called G6PD deficiency. That patient's red blood cells broke down (hemolytic anemia).
- No trials have tested high-dose IV vitamin C with FOLFIRINOX in pancreatic cancer beyond that one 9-patient study. There's no published data on survival or tumor response from this combination.
- A network of clinics (the **Riordan Clinic** in Kansas and similar centers) reports their own patient outcomes with their "Riordan protocol." These reports are not from independent researchers — the clinics sell the protocol, and the results have not been confirmed in independent trials.

**Conflict of interest: The clinics sell the protocol they report on; results have not been confirmed in independent trials.**

You may have heard high-dose IV vitamin C discussed on the Joe Rogan podcast (episode #1701 with Thomas Levy), or seen it on Reddit groups like r/pancreaticcancer and r/AlternativeCancerCures. A common claim is that "vitamin C cures cancer" or that it's "suppressed by drug companies." The lab idea behind vitamin C — that high doses might help — is real and has been studied for decades. But the claim that it cures cancer goes well beyond what the actual trials show.

One thing worth knowing: vitamin C can't be patented like a drug. That means drug companies have no reason to pay for the big trials that could finally settle whether it works. So the research stays small and the evidence stays thin — that's a real reason the science hasn't kept up with the hype.

## What we don't know yet

- **No trial of IV vitamin C with FOLFIRINOX beyond the 9-patient study.** There's no survival or tumor-shrinkage data for this specific combination. Everything we know about this exact mix comes from a single very small study.
- **G6PD screening is not standard.** Most doctors don't routinely test for G6PD deficiency before chemo. Without that test, the one known safety risk of IV vitamin C goes unchecked.
- **No long-term safety data.** The trials lasted weeks to months. We don't know what years of high-dose IV vitamin C might do — though for advanced pancreatic cancer, that may be a less pressing question than it is for earlier-stage patients.
- **No standardized dose.** Different clinics use different IV doses — anywhere from 25 to 100+ grams per infusion. We don't know which dose, if any, is the most useful or safe.

# Questions to bring to your doctor

If you're still thinking about trying IV vitamin C alongside your FOLFIRINOX, these are the questions worth bringing to your doctor first. Print or screenshot the list — they're based on what the research showed (and didn't show) for your situation.

- 1** Should I be tested for G6PD deficiency before starting IV vitamin C?  
That's the one identified safety risk in the trials, and a simple blood test settles it.
- 2** The available trials used different chemo regimens. Does my being on FOLFIRINOX change whether you'd consider this?  
The 9-patient study did use FOLFIRINOX but is too small to draw safety conclusions; ask for your team's read.
- 3** Without clear proof of benefit, would you consider the tolerability data alone enough reason to try it?  
This is a values question — get your team's view on the risk-benefit balance for your situation.
- 4** If we go ahead, how would we tell if it's helping or hurting?  
No standard "this is working" marker exists, so it's important to agree on what you'd monitor.
- 5** Are there supportive options for fatigue or appetite that have stronger evidence than IV vitamin C?  
Your weight and appetite have dropped — there may be more proven options worth trying first.

# Clinical Summary

**Patient context:** 58M · Stage IV pancreatic adenocarcinoma · first-line therapy

**Current treatment:** FOLFIRINOX, cycle 3 of planned 12

**Comorbidities & meds:** None reported; 165 lb (down from 180 pre-diagnosis); reduced appetite; G6PD status unknown

**Conditional context:** Recent weight loss noted; G6PD status not tested

**Research question:** Is high-dose IV vitamin C safe and beneficial alongside FOLFIRINOX for Stage IV pancreatic cancer?

**Intervention:** High-dose intravenous ascorbic acid (Riordan protocol-style dosing, typically 25–100 g per infusion)

## STRONGEST EVIDENCE

Carr & Cook, 2018 systematic review — IV ascorbate across 19 studies in mixed cancers — generally tolerated; no platinum-specific safety signal; efficacy evidence rated insufficient (independent funding). Welsh et al., 2013 — phase I/II RCT N=14 pancreatic + gemcitabine — combination tolerated; median OS 13 months vs historical 6–11; no control arm (NIH-funded). Monti et al., 2012 — phase I/II...

## STRUCTURAL COI

Research-agenda capture — ascorbate is non-patentable; pharma has no incentive to fund large definitive trials; this is a structural reason the evidence base is small. Ideological capture — alternative-medicine movements have ideologically promoted IV vitamin C for cancer since Cameron & Pauling (1970s); contemporary anecdotal sources are largely movement-affiliated. Publication bias —...

## INTERACTION CONCERNS

G6PD deficiency — single grade 3 case in Monti 2012; G6PD screening not standard but recommended before initiation. No platinum interaction signal in available data. No data on irinotecan or 5-FU interaction with high-dose ascorbate.

## EVIDENCE GAPS

No FOLFIRINOX-specific RCT beyond N=9 pilot. No survival or RECIST-response endpoint data. No standardized dose protocol. No maintenance-phase safety data. G6PD-screened cohort data absent.

## Reference list

- 1 [Carr AC, Cook J. Intravenous vitamin C for cancer therapy: a systematic review. Frontiers in Physiology, 2018.](#)
- 2 [Welsh JL, et al. Pharmacological ascorbate with gemcitabine for the treatment of pancreatic cancer: a phase I/II RCT. Cancer Chemotherapy and Pharmacology, 2013.](#)
- 3 [Monti DA, et al. Phase I evaluation of intravenous ascorbic acid in combination with gemcitabine and erlotinib in patients with metastatic pancreatic cancer. PLoS One, 2012.](#)
- 4 [ClinicalTrials.gov — registered trials of ascorbic acid in pancreatic cancer.](#)
- 5 [National Cancer Institute — High-Dose Vitamin C \(PDQ®\): Health Professional Version.](#)
- 6 [Riordan Clinic — IVC Protocol \(manufacturer's clinical guidance; not independently validated\).](#)