



OncANP Natural Oncology Newsletter

Will Asparagus Cure Cancer?
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If you have cancer, you may have been forwarded an email that claims asparagus will cure you. If you haven't seen it yet, it's only a matter of time before a well-meaning friend or relative sends you a copy.

Those of us who specialize in naturopathic oncology hear about this asparagus claim from our patients—many of who assume the information is true. Unfortunately, it's not. There is no evidence asparagus will cure cancer. And in fact, it may make a few cancers worse.

Here is what we know about these claims.

The "Asparagus Cure for Cancer" first appeared in print in the February 1974 issue of *Prevention* magazine. A similar article appeared in the December 1979 issue of *Cancer News Journal*, a magazine once distributed in health food stores. Both articles claim that a dentist named Richard R. Vensal discovered that eating asparagus could cure cancer.

According to the email that is circulating, you can cure your cancer by consuming four tablespoons of pureed, cooked asparagus twice a day. Improvement is supposedly seen in two to four weeks. Unfortunately no articles, studies, or reports by Richard Vensal have ever been published substantiating this information.

A single recent study, published in 2009, offers a bit of support for asparagus's cancer-fighting claims: Chinese researchers report that a chemical that they isolated from asparagus had an anticancer effect when added to liver cancer cells.¹ But this study was only on cells—no studies have been published that show positive results from feeding asparagus to animals or humans with cancer.

It's true that diets high in vegetables help prevent cancer, but no evidence singles out asparagus in particular as a cancer-fighter. There may be some health benefits from eating asparagus because it is a vegetable, but there is little reason to think that asparagus is special.

In contrast, substantial information exists on the anticancer effects of other vegetables. For example, a current search of the National Institute of Health's National Library of Medicine lists 597 published articles related to broccoli and its cancer-protective effects.ⁱⁱ A search for published papers on garlic and cancer yields 648 references,ⁱⁱⁱ but these studies focus on prevention. None suggests broccoli or garlic will cure cancer—and certainly not in a few weeks, as the email about asparagus suggests.

Only two clinical trials involving asparagus and humans have been published, and neither focused on cancer. One, from 2009, examined whether a combination of parsley and asparagus would lower blood pressure and found no effect.^{iv} An earlier study, published in 2008, reported that a combination of asparagus and elderberry extracts helped patients lose weight.^v

While there is scant reason to think that asparagus will cure cancer, there is good reason to think that asparagus may aggravate some cancers—particularly acute lymphoblastic leukemia (ALL).

| The link between asparagus and leukemia is well established. In 1953, John Kidd discovered that blood serum taken from healthy guinea pigs and injected into mice killed leukemia cancer cells.^{vi} Ten years later John Broome explained why: Guinea pig blood contains an enzyme called l-asparaginase, which breaks down the amino acid l-asparagine. Healthy cells make l-asparagine, but certain leukemia cells do not. These leukemia cells must rely on nearby healthy cells to supply them with l-asparagine. The enzyme in the guinea pig blood breaks down the needed l-asparagine, depriving the cancer cells of the chemical that they need to grow.^{vii}

L-asparaginase enzyme is sold as a prescription drug (Elspar) and is now part of the standard protocol used to treat acute lymphoblastic leukemia (ALL). Taking the drug decreases l-asparagine and starves the cancer cells. Most types of cancer do make l-asparagine, so Elspar is only useful in treating the few specific cancer types that do not make l-asparagine.

As the names hints, asparagus contains relatively large amounts of l-asparagine. Eating asparagus would seem ill-advised for people who have cancers that respond to l-asparaginase (Elspar), including lymphoma and multiple myeloma.^{viii,ix} At least theoretically, eating asparagus may make all of these cancers grow faster, especially ALL.

People diagnosed with cancer are often both inspired and desperate to do everything in their power to fight the disease. Understandably, they find hope in

every story that promises a cure—and they may lack the critical analysis they would employ if circumstances were different. The myth that asparagus cures cancer is just that: a myth. Eating daily doses of asparagus will not cure anyone, and in some cases it will actually worsen the condition.

On the other hand, ample knowledge and ever-growing evidence support the notion that certain dietary changes and specific foods and supplements may be useful in fighting cancer. Because there is no one-size-fits-all approach, it makes sense to seek out advice from a specialist—someone who knows a lot about using natural medicine with cancer patients.

The Oncology Association of Naturopathic Physicians, an affiliate of the American Association of Naturopathic Physicians (OncANP), lists naturopathic doctors who specialize in caring for cancer patients on its website: www.OncANP.org. This group tests and provides board certification in naturopathic oncology to members who meet specified standards of education and experience. Naturopathic physicians are specialists in natural medicine, and OncANP members are specialists in using natural medicine in an oncology setting.

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[The preceding editorial opinion is that of the article's author. The OncANP does not necessarily endorse the opinions expressed in these newsletters.]

ⁱ Liu W, Huang XF, Qi Q, Dai QS, et al. Asparagin A induces G(2)/M cell cycle arrest and apoptosis in human hepatocellular carcinoma HepG2 cells. *Biochem Biophys Res Commun*. 2009;381(4):700-705.

ⁱⁱ <http://www.ncbi.nlm.nih.gov/pubmed?term=broccoli%20and%20cancer>

ⁱⁱⁱ <http://www.ncbi.nlm.nih.gov/pubmed?term=garlic%20and%20cancer>

^{iv} Chrubasik S, Droste C, Black A. Asparagus P(R) cannot compete with first-line diuretics in lowering the blood pressure in treatment-requiring antihypertensives. *Phytother Res*. 2009;23(9):1345-1346.

^v Chrubasik C, Maier T, Dawid C, et al. An observational study and quantification of the actives in a supplement with *Sambucus nigra* and *Asparagus officinalis* used for weight reduction. *Phytother Res*. 2008;22(7):913-918.

^{vi} Moon HD. Presentation of the Gold Headed Cane to John G. Kidd. February 24, 1973. *Am J Pathol*. 1973;73(1):1-6.

^{vii} Broome JD. Evidence that the L-asparaginase of guinea pig serum is responsible for its antilymphoma effects. I. Properties of the L-asparaginase of guinea pig serum in relation to those of the antilymphoma substance. *J Exp Med*. 1963;118:99-120.

^{viii} Jaccard A, Gachard N, Marin B, et al. Efficacy of L-asparaginase with methotrexate and dexamethasone (AspaMetDex regimen) in patients with refractory or relapsing extranodal NK/T-cell lymphoma, a phase 2 study. *Blood*. 2011;117(6):1834-1839.

^{ix} Taylor CW, Dorr RT, Fanta P, Hersh EM, Salmon SE. A phase I and pharmacodynamic evaluation of polyethylene glycol-conjugated L-asparaginase in patients with advanced solid tumors. *Cancer Chemother Pharmacol*. 2001;47(1):83-88.