

Diet and Supplements after a Cancer Diagnosis

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Overview:

In this paper (a prospective study of older female cancer survivors) the authors relate the data derived from using the Iowa Women's Health Study, a prospective cohort study with 2,118 postmenopausal women with a confirmed cancer diagnosis (1986–2002), to evaluate the association between post diagnosis dietary supplement use assessed in 2004 and subsequent all-cause mortality. Risk of death was evaluated using multivariable-adjusted Cox proportional hazards regression. They performed stratified analyses by diet quality score, dietary micronutrient intake, and perceived general health.

Clinical Discussion:

Although limited by factors such as age, race and gender this is a revealing study in regard to common concepts and misconceptions in the use of supplements around cancer care. The questions I believe it may help clear up in the mind of patient and practitioner are:

- Will taking supplements harm my cancer care?
- Will supplements affect length of life during cancer care?
- Will supplements make my cancer grow faster?
- Does my diet matter during cancer therapy?

Practice Implications:

Many years of publications, most based on conjecture – but some based on human data, have seemingly gone back and forth either casting concern over the use of supplements after cancer diagnosis or implying that they are of help. Debates over the “well user” versus “sick user” effect of supplements have also added complexity and often confusion to this discussion. I am often called upon to discuss this concern over nutrient use during and after oncology therapies in integrative cancer courses.

Having been a student of this material for many years I am always interested when new data emerges from either side of the argument because the mass of data over time is also meaningful. Of course any one study has limitations and can only answer the “questions” which were built into the design so

limitations are the norm. Also having treated patients who have cancer for over twenty years at this point I realize that generalizing about anything in oncology is a treacherous endeavor.

The design has the numbers and power to be taken seriously. In the words of the authors: “Our study is one of the first large-scale population-based studies analyzing health outcomes of dietary supplement use specifically among older cancer survivors, a rapidly expanding and understudied population. The prospective study design and a large number of participants are major strengths of this study. We were able to identify more than 2,100 cancer survivors during the 17 years of follow-up for cancer incidence, with more than 600 deaths during the subsequent follow-up of the cancer survivors. Dietary supplement use and dietary intake were collected at least two years after a cancer diagnosis, and prior to the subsequent follow-up.”

Looking at the above four questions based on this paper we can make the following conclusions, assessing the first three and then the fourth separately:

1. Will taking supplements harm my cancer care?
2. Will supplements affect length of life during cancer care?
3. Will supplements make my cancer grow faster?

This is difficult to fully answer from this one paper alone, but we can see important trends in the group studied. In our own cancer research with advanced cancers we have found that survival over time is one of the most effective measures of efficacy of anything affecting the cancer patient. If we look at survival / mortality of those taking supplements there is no overall increase in mortality in those taking dietary supplements. If we consider that the sample has enough to even out those on active, maintenance, no or declined oncology therapies I would assess this data to say that neither the cancer therapy nor speed of cancer growth were affected in the group taking supplements.

Because of past negative reports about two specific nutrients with regard to intake and cancer patients I wanted to point out the data reported here about Vitamin E and Folates.

Regarding vitamin E supplement use:

“Decreased risk of death related to post diagnosis vitamin E supplement use was previously reported. In our study, overall post diagnosis vitamin E supplement use was not associated with mortality, but cancer survivors using vitamin E supplements and MV in addition to at least half the RDA of dietary vitamin E intake were at decreased risk of death in our study.”

Regarding the ever “of concern” folic acid (1,2):

“In our study, however, folic acid supplement use alone or in combination with MV was not associated with the risk of death, even among women whose dietary folate intake exceeded half the RDA. Higher risk of death observed among folic acid supplement users with low diet quality scores may partly be because of residual confounding by their deteriorating health due to their cancer, cancer treatment, or other comorbid conditions.”

4. Does my diet matter during cancer therapy?

This to me is one of the most interesting (and seemingly obvious) outcomes shown by the data. Essentially the answer appears to be “yes”. As mentioned above the one factor causing an association between folate and higher mortality was “low quality diet scores”, although this did not affect vitamin E. When looking at the only negative data associations found the authors stated: “In conclusion, the use of most dietary supplements after cancer diagnosis was not associated with the risk of death in this study among older female cancer survivors. However, using folic acids, MV [multi-vitamins], or a greater number of dietary supplements appeared to be associated with higher risk of death only among survivors eating lower quality diets.”

To recap the definition of “lower quality diets”: “Cancer survivors with low diet quality scores had lower intake of total energy, protein, carbohydrate, fruits and vegetables, total meat, and whole grains, but higher alcohol intake compared to those with high diet quality scores ($p < 0.05$ for all). Fat intake (total and saturated) was not different between low and high diet quality score groups. Both dietary and total intakes of all micronutrients, except for total vitamin E, were higher among survivors with high versus low diet quality scores ($p < 0.05$ for all).”

Given the inverse association between maintenance of muscle mass and negative outcomes in patients with cancer (3-6) it is not surprising that a diet lower in total calories from protein and carbohydrate but higher in alcohol would be associated with all manner of negative outcomes.

The advice from the authors to provide patients with nutritional assessment, counseling and a well-rounded approach in general is excellent and likely would mitigate the negative findings encountered. For example assuring an appropriate diet as a base, only prescribing supplemental iron when within guidelines for oncology patients, and measuring and treating low vitamin D status (all mentioned in this

paper) would appear to have nothing but positive effect. The integrative healthcare practitioner is in the best position to provide such advice and guidance to patients with cancer.

References:

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