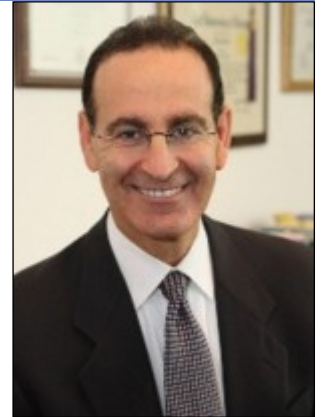


## Antioxidant-and-Chemotherapy Combo Shows Significant Benefits

*This article was based on a study performed by Dr. Keith Block and his colleagues. Keith I. Block, M.D., is the Director of Integrative Medical Education at the University of Illinois College of Medicine; Medical Director of the Block Center for Integrative Cancer Treatment in Evanston, Illinois; and editor-in-chief of the peer-reviewed journal Integrative Cancer Therapies.*



Despite lingering beliefs to the contrary, recently examined data strongly indicate that for most cancer patients, using antioxidant supplements during chemotherapy is not only safe, it often enhances its effectiveness.

Researchers from the University of Illinois at Chicago and the Institute for Integrative Cancer Research and Education have published a review that may have you rethinking your opinions about this controversial topic.

"There's a lot of confusion surrounding this issue, and the advice coming out of many medical institutions is based on the belief that antioxidants may interfere with the chemotherapeutic effect on cancer tissue," says lead author Keith I. Block, MD. "The question has been, Do antioxidants protect healthy tissue, or do they protect cancer tissues from effects of chemotherapy?"

After examining the literature from 845 studies of the simultaneous use of antioxidants and chemotherapy, the team found that 19 studies met the study design criteria to include in the review - all randomized controlled clinical trials, which yield the most scientifically sound data. A total of 1,554 patients with a wide variety of cancers (most advanced or relapsed cases) were evaluated.

The studies examined the impact on 17 different chemotherapy drugs when they were used in conjunction with one or more of the following antioxidant supplements:

- \* Glutathione
- \* Melatonin
- \* Vitamin A
- \* Antioxidant mixture
- \* Vitamin C
- \* N-acetylcysteine
- \* Vitamin E
- \* Ellagic acid

What the team found, Block says, was "solid and consistent data showing that antioxidants did not interfere with chemotherapeutic effects - and in fact mitigated cancer treatment toxicity - in most patients." Here are just a few examples of their findings:

\* Thirty-one percent of patients who used vitamin E supplements experienced neurotoxicity during treatment, compared to 86 percent of the control group. Patients had malignant cancers that included lung, head and neck, ovarian, and testicular.

\* Glutathione use during chemotherapy resulted in significantly reduced neurotoxicity - and significantly improved tumor response and survival rates - among patients suffering from cancers that included ovarian, colorectal, and gastric.

\* A number of studies showed that patients who used melatonin supplements had consistently better chemotherapeutic responses, significantly fewer side effects, and significantly higher survival rates overall compared to patients who did not use melatonin. Cancers included in these data include lung, colorectal, and breast.

\* In one study, metastatic breast cancer patients who used vitamin A supplements had more than double the treatment response rates of patients in the control group - and 38 percent experienced complete tumor shrinkage. In another study, 43-month survival rates among post-menopausal women was 78 percent, compared to 19 percent among women who did not take vitamin A supplements.

Shrinking tumors and lengthening lives is of course what cancer treatment is all about, but don't underestimate the importance of reducing side effects. After all, fewer ill effects mean fewer patients forego their prescribed chemotherapy regimens.

When patients get sick from chemotherapy, their regimens often are interrupted - either on their doctors' orders or because they choose to stop following them. In fact, Block says, side effects lead as many as one-third of cancer patients to abandon treatment altogether.

Both common sense and existing research tell us that by reducing dosing and interrupting or diminishing a patient's chemotherapy schedule, the efficacy of the treatment - and therefore the outcome - is diminished.

"The potential for antioxidants to reduce chemotherapy side effects is the larger issue behind our research," Block says. "Fewer side effects mean more patients will complete their prescribed regimens at the full recommended dosages and on schedule. We believe the research suggests that antioxidants can not only diminish toxicity, they can improve outcomes in terms of tumor response, survival rates, and treatment tolerance."

Confused and concerned chemotherapy patients often believe they're taking the conservative route by avoiding antioxidants, says Block, "but science substantially supports an approach that integrates both. If you want to pursue therapies that are evidence-based, the current body of knowledge clearly suggests that most people are better off using antioxidants in conjunction with chemotherapy than not."

This is not to say that there won't be an occasional interaction or adverse effect from the use of supplements; there will be, he says.

"When it comes to combining natural products with conventional therapies, people should not assume that all natural products work well with all conventional treatments in all patients," says Block. "Integrative medicine needs to be individualized, but the average patient can benefit from a chemotherapy-supplement regimen that's tailored to his or her individual needs, and put together with a clear understanding of how the various drugs and supplements might interact."

"There are a lot of variables that we can do something about - and those include our lifestyles and diets, as well as the individualized use of antioxidant supplements," he says. "By precisely combining conventional and complementary therapies like antioxidant supplementation, and tailoring that regimen to the needs of each patient, we can have a substantial effect on mitigating toxicity and patient outcomes."

Source:

Block KI et al., Impact of Antioxidant Supplementation on Chemotherapeutic Efficacy: A Systematic Review of the Evidence from Randomized Controlled Trials, Cancer Treatment Reviews (March 14, 2007)