

Combining Nutrients and Chemotherapy without Worsening a Patient's Stress Level

In this issue our esteemed colleague, Dr. Michael Schachter, imparts both wisdom and science in his comprehensive integrative oncology article. He reviews anti-cancer treatments known to many of us in the orthomolecular world. One of the controversies he highlights is the concomitant use of nutritional therapies (antioxidants) with chemotherapy, for which he cites credible research demonstrating better outcomes (i.e., increased survival and less toxicity) when they are used together.

While I do not disagree with this in theory, in clinical practice it is the cancer patient who has the most difficulty when nutritional therapies are combined with chemotherapies. More often than not a patient's oncologist is emphatically against the idea and informs the patient that such treatments can (and will) undermine the efficacy of chemotherapy. This usually worsens a patient's stress level since he/she wants a more supportive oncologist. The outcome for the patient is to either withhold the truth or stop nutritional treatments if a more productive treatment environment is to be established. Not disclosing the truth is never a good option for a patient to take. An effective medical management plan must be developed with the full knowledge of what medications and nutritional treatments a patient is taking. Stopping nutritional treatments is also not acceptable since cancer outcomes can be improved by the addition of nutritional therapies.

A better option is to combine chemotherapy and nutritional treatments in a manner that considerably minimizes and possibly eliminates interactions. This has the advantage of easing a patient's stress level while also encouraging the oncologist to be more supportive and open-minded. It is simply a matter of knowing the half-lives of nutritional treatments and chemotherapeutic agents.^{1,2} As a general rule, it takes 5 half-lives to reach steady state, and 5 half-lives to eliminate nearly all of a drug from the body. Thus, if the half-lives are known, the use of nutritional treatments can be stopped so that

virtually none remain in the body prior to the use of intravenous (or oral) chemotherapy. This principle would also be used post-chemotherapy because chemotherapeutic agents need to be eliminated from the body prior to the resumption of nutritional treatments.

Most nutritional treatments have half-lives less than 4 hours (except sodium selenite and L-selenomethionine), which means that in 24 hours 5 half-lives would have elapsed and full elimination from the body would have occurred.^{1,2} On the other hand, the typical half-lives of chemotherapy drugs can vary greatly being between 1 and 30 hours. Most chemotherapeutic agents are administered sequentially, after which there is a rest period of 2 to 3 weeks before the chemotherapeutic agents are resumed. Based on knowledge of half-lives, nutritional treatments can be re-started during these rest periods, but they are not begun until 5 half-lives have elapsed because this is the time duration where chemotherapy drugs have therapeutic effectiveness. Thus, nutritional treatments can be resumed 7 days following chemotherapy without any concern of a negative interaction, and would need to be discontinued at least one day prior to another sequential course of chemotherapy.^{1,2}

I have used this approach with numerous cancer patients and have found that it reduces patients' stress levels and encourages better collaboration with their oncologists. Even though I generally stick to this plan, sometimes there are justifiable reasons to provide nutritional treatment even when the possibility of an interaction is high or likely. In situations where a patient's prognosis is grim, it might not be reasonable or possible to adhere to the above protocol.



—Jonathan E. Prousky, ND, MSc

References

1. Seely D, Stempak D, Baruchel S: A strategy for controlling potential interactions between natural health products and chemotherapy: a review in pediatric oncology. *J Pediatr Hematol Oncol*, 2007; 29: 32-47.
2. Seely D: Reassuring the medical oncologist. *NDNR*, 2007; 3(5): 1,6-7.