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Letter to the Editor

Should Antioxidant Supplementation Be Contraindicated During Active Cancer Treatment?

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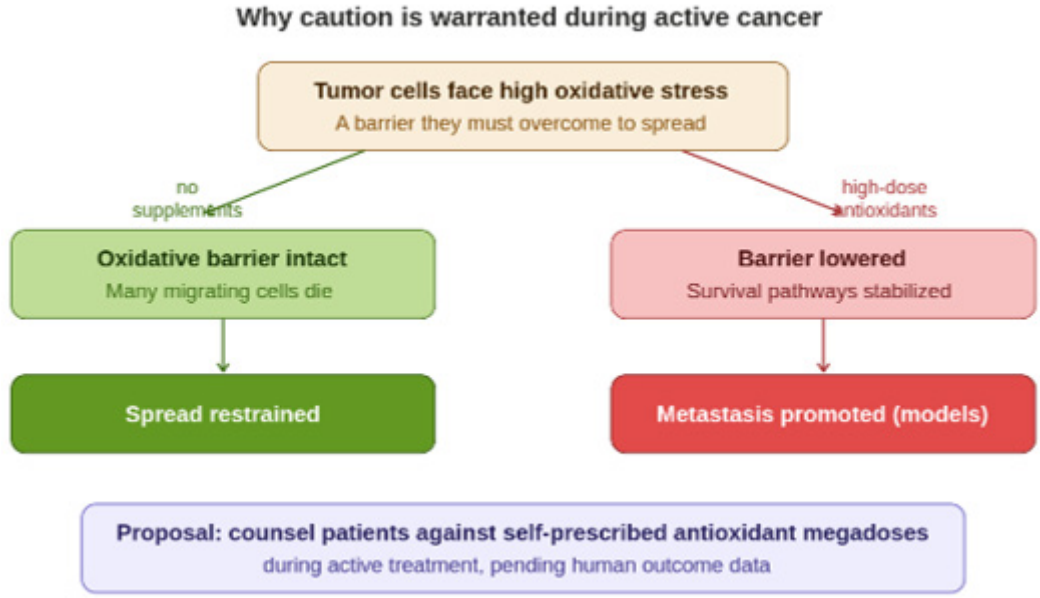
Manuscript Technomedia LLP, No. 22 (New No. 40), 3rd Cross, Vivekananda Nagar, Bengaluru, Karnataka, INDIA.

Dear Editor,

Many patients undergoing cancer treatment take antioxidant supplements in the belief that they are harmless or protective. Emerging mechanistic evidence suggests this assumption deserves urgent scrutiny, and I write to propose that clinicians proactively counsel patients on this point.

According to PubMed, reactive oxygen species act on a gradient in which high levels limit cancer cell survival during certain windows of initiation and progression, such that dietary antioxidant supplementation—which has generally proven ineffective or detrimental in clinical trials-may promote cancer cell survival during those windows. Oxidative stress, in other words, is partly a barrier the tumor must overcome, and lowering it pharmacologically may remove that barrier.

The experimental data are striking. According to PubMed, administration of N-acetylcysteine increased lymph node metastases in a mouse model of malignant melanoma, and both N-acetylcysteine and a soluble vitamin E analog increased the migration and invasion of human melanoma cells through a glutathione-dependent, RHOA-mediated mechanism. In lung cancer, according to PubMed, long-term supplementation with N-acetylcysteine and vitamin E promoted KRAS-driven metastasis by stabilizing the transcription factor BACH1 and driving glycolysis-dependent spread, an effect prevented by targeting BACH1.



During active cancer, high oxidative stress restrains tumor-cell spread; antioxidant supplementation can lower that barrier and promote metastasis in preclinical models.

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These findings are largely preclinical, and I am not claiming proof of harm in patients. That uncertainty, however, cuts toward caution rather than complacency: when the mechanistic and animal evidence points consistently toward promotion of metastasis, and the human trial record for antioxidant supplementation in cancer prevention is at best null, recommending megadose antioxidants to patients with active disease is difficult to defend.

A reasonable interim position is that patients on active treatment should be advised to obtain antioxidants from a normal diet rather than from high-dose supplements, and that self-prescribed antioxidant regimens should be disclosed to and discussed with the oncology team. Encouraging clinicians to raise this proactively-rather than waiting to be asked-would align practice with the current balance of evidence while definitive human outcome data are awaited.

REFERENCES

Gill, J. G., Piskounova, E., & Morrison, S. J. (2017). Cancer, oxidative stress, and metastasis. Cold Spring Harbor Symposia on Quantitative Biology, 81, 163-175. https ://doi.org/10.1101/sqb.2016.81.030791

Le Gal, K., Ibrahim, M. X., Wiel, C., Sayin, V. I., Akula, M. K., Karlsson, C., Dalin, M. G., Akyürek, L. M., Lindahl, P., Nilsson, J., & Bergo, M. O. (2015). Antioxidants can increase melanoma metastasis in mice. Science Translational Medicine, 7(308), 308re8. https:/ /doi.org/10.1126/scitranslmed.aad3740

Wiel, C., Le Gal, K., Ibrahim, M. X., Jahangir, C. A., Kashif, M., Yao, H., Ziegler, D. V., Xu, X., Ghosh, T., Mondal, T., Kanduri, C., Lindahl, P., Sayin, V. I., & Bergo, M. O. (2019). BACH1 stabilization by antioxidants stimulates lung cancer metastasis. Cell, 178(2), 330-345. e22. https://doi.org/10.1016/j.cell.2019.06.005

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