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Antioxidant therapy for hepatic diseases: a double-edged sword

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From the journal [Journal of Basic and Clinical Physiology and Pharmacology](#)
<https://doi.org/10.1515/jbcpp-2023-0156>

Abstract

Liver diseases are complex conditions, significantly influenced by oxidative stress. This comprehensive review assesses the therapeutic role of antioxidants like L-ascorbic acid and α tocopherol, beta-carotene, various minerals, and plant-based ingredients in mitigating oxidative stress-induced liver diseases. The manuscript delves into the critical influence of genetic and epigenetic factors on disease susceptibility, progression, and response to antioxidant therapy. While animal studies suggest antioxidant efficacy in liver disease treatment, human trials remain inconclusive, and caution is advised due to its possible potential pro-oxidant effects. Moreover, the interactions of antioxidants with other drugs necessitate careful consideration in the management of polypharmacy in liver disease patients. The review underscores the need for further research to establish the clinical benefits of antioxidants with understanding of possible antioxidant toxicities to elucidate the intricate interplay of genetic, epigenetic, and environmental factors in liver diseases. The aim is to foster a better understanding of the knowledge on hepatic disease management with judicious antioxidant therapies.

Keywords: [oxidative stress](#); [free radicals](#); [antioxidants](#); [hepatic diseases](#); [limitations](#)

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Acknowledgments

Authors are thankful to Professor Swastika Das. Professor and Head, Department of Chemistry, BLDEA's College of Engineering and Technology, Vijayapur, India for providing valuable inputs and guidance.

Research ethics: Not applicable. The local Institutional Review Board deemed the study exempt from review.

Informed consent: No applicable.

Author contributions: All authors have accepted responsibility for the entire content of this manuscript and approved its submission.

Competing interests: Authors state no conflict of interest.

Research funding: None declared.

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