



Special Issue Reprint

Nutrition and Liver Disease

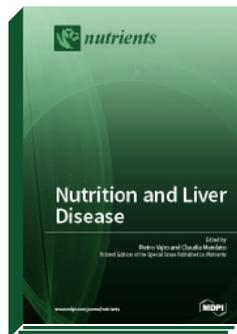
Edited by

Pietro Vajro and Claudia Mandato

mdpi.com/books/pdfview/book/646

ISBN 978-3-03842-923-4 (Pbk)

ISBN 978-3-03842-924-1 (PDF)



Malnutrition in people with liver disease is a challenging issue due to its multifactorial nature, which includes hypermetabolism, increased energy needs, malabsorption, and anorexia. Despite advances in both assessment and management, correct nutritional support is still an often-unanswered need in the care of these patients to avoid poor outcomes. One of the central issues remains how to improve muscular mass of sarcopenic chronically malnourished individuals with end stage liver diseases and cirrhosis, as only a correct nutritional assessment and subsequent nutritional handling may enhance quality of life and disease outcome.

Nutritional management is mandatory in certain inherited metabolic/genetic defects: in these patients specific dietary restrictions/supplementations represent a challenge to guarantee optimal growth and liver health.

A nutraceutical approach dealing with hepatoprotective effects of specific nutrients, has been proposed for several chronic liver disease, mainly in obesity related liver disease and alcoholic liver disease.

Finally, other challenges are represented by tailored nutritional intervention in improving gut–liver axis dysfunction also in parenteral nutrition/intestinal failure associated liver disease, inflammatory bowel disease, and celiac disease.

The purpose of this Special Issue, “Nutrition and Liver Disease”, is to provide novel information and perspectives in the field of nutrition in liver disease and its management.



Order Your Print Copy

Print copies (170 x 244 mm, Pbk) can be ordered at:

► www.mdpi.com/books/pdfview/book/646

For the most part, extrapolations of the cellular properties of extrahepatic Gla proteins to tangible health benefits are unclear or fuzzy, as are the health consequences of their undercarboxylation. However, there is evidence that higher nutritional intakes of vitamin K are required to enable maximal γ -carboxylation of certain extrahepatic Gla proteins, such as osteocalcin and matrix Gla protein (MGP). Osteocalcin and MGP currently represent the best-studied extrahepatic Gla proteins with respect to their putative roles in bone and cardiovascular health, respectively. In addition, osteocalcin may play a role in regulating energy metabolism. Much current interest focuses on the role of MGP as an inhibitor of vascular mineralization, particularly in renal disease and in patients taking VKA. Interestingly, although VKA have been in clinical use for decades, recent evidence suggests that they may cause unintended health consequences by disrupting the function of MGP resulting in calcification and loss of the functional integrity of the vessel wall. Apart from the role of vitamin K in γ -carboxylation there is evidence that some forms, particularly menaquinone-4 (MK-4), have a direct influence on cellular functions.

This Special Issue of *Nutrients* focuses on advances that extend our knowledge of the biochemical functions and health roles played by both the micronutrient vitamin K and its target Gla proteins. The scope of potential topics is wide and may include studies in population and patient groups, animal models and at the cellular level. Examples include the presentation, diagnosis, incidence, causes, and prevention of deficiency syndromes, of which the most obvious is bleeding in infancy, but also extends to other putative roles of vitamin K such as in bone and cardiovascular health. In trying to define extrahepatic functions of vitamin K it is important to obtain evidence of pathophysiological signatures that may derive from chronic suboptimal vitamin K intakes or as a consequence of vitamin K antagonists. An important related question is whether the pathophysiology can be ameliorated or prevented by judicious vitamin K supplementation. Equally important to our understanding of the human physiology of vitamin K are studies that define the relative functional importance of individual vitamers and how differences in their availability and metabolism affect their biological activity. Recent highlights in metabolism include the delineation of the importance of vitamin K epoxide reductase (VKOR) in maintaining vitamin K status and the intriguing hypothesis that its paralog VKOR-like 1 enzyme (VKORL1) may serve an antioxidant function. Another highlight illustrating the importance of metabolism to vitamin K function is the discovery that the enzyme UbiA prenyltransferase-containing domain 1 (UBIAD1) participates in the cellular conversion of phylloquinone to MK-4 with menadione as a metabolic intermediate. We invite authors to submit reviews or original research on any of the above topics.



Order Your Print Copy

Print copies (170 x 244 mm, Pbk) can be ordered at:

► mdpi.com/books/library

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), the Verzeichnis lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.