4. HYPERFERRITINEMIA IN LIVER DISEASES - DIAGNOSIS AND CONTROVERSIES

Author: Faraj Shehab

Scientific advisor: Berliba Elina, MD, Associate Professor, Discipline of Gastroenterology, Department of Internal Medicine, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Ferritin is a protein that plays a crucial role in iron storage and regulation within the body. It is found primarily within cells, particularly in the liver, spleen, bone marrow, and other tissues that store and utilize iron. Ferritin serves as a means of storing excess iron in a safe form. Hyperferritinemia is a phenomenon characterized by elevated levels of ferritin, a vital iron-regulating protein, that gained substantial attention in the realm of healthcare. Ferritin, traditionally recognized for its role against iron deficiency, plays a dual role as both a storage depot and a gatekeeper for this essential mineral.

Aim of study. The aim of study was to evaluate the causes and diagnostic implications of hyperferritinemia in liver diseases.

Methods and materials. A comprehensive literature search using PubMed, Clinical Review, and Google Scholar, targeting articles, meta-analyses, and references from relevant articles and textbooks published between 2010 and 2013 as well as 2017 and 2023. The data is collected at multiple time points to help readers understand when each set of data was collected.

Results. Non-Alcoholic Fatty Liver Disease is one of the most common causes of liver diseases. In some cases of this cause, hyperferritinemia can occur without iron overload, leading to debate about the role of iron in the disease. Elevated ferritin levels may reflect liver inflammation rather than iron overload in these cases which is highly controversial.

Conclusion. It is becoming evident that ferritin has numerous functions beyond its traditional role as an intracellular iron storage protein. There are still many unknown aspects of ferritin biology, and ongoing debates in the scientific community indicate the need for further experiments. Determining the underlying causes of hyperferritinemia can often be accomplished through assessments.

Keywords. Hyperferritinemia, ferritin, liver diseases, iron overloads