Ceruloplasmin Levels of Patients with Different Liver Diseases

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Abstract Text

Background: The decrease of ceruloplasmin is one of the main characters for the diagnosis of Wilson disease (WD). Clinical experiences proved that the level of ceruloplasmin can also decline in non-WD liver diseases such as liver cirrhosis and liver failure. The purpose of this study was to evaluate serum ceruloplasmin levels in different etiologies of liver diseases.

Methods: 1077 patients were enrolled in the Department of Hepatology, the First Hospital of Jilin University, from January 2012 to January 2018. Ceruloplasmin was detected using a nephelometric method by the Department of Clinical Laboratory of our hospital. The normal value was 0.2-0.6 g/L. And then the decline of serum ceruloplasmin levels in different liver diseases were analyzed.

Results: The serum ceruloplasmin concentration in 97.6% of WD patients was lower than 0.2 g/L, and 88.1% of them were below 0.1 g/L. In non-WD group, ceruloplasmin was lower than 0.2 g/L in 24.3% of the patients, of which 0.2% were below 0.1 g/L. The proportion of patients with a decrease in serum ceruloplasmin at the line of 0.2 g/L was 69.9% for liver failure, 47.6% for nonalcoholic fatty liver disease, 40.0% for viral hepatitis cirrhosis, 33.3% for chronic viral hepatitis, 24.8% for unknown cirrhosis, 22.5% for alcoholic liver disease, 21.3% for unexplained liver damage, 15.1% for drug-induced liver injury, 13.0% for primary liver cancer, 4.5% for acute viral hepatitis, and 2.8% for autoimmune liver disease. In addition, there are some other liver diseases with a decrease of serum ceruloplasmin, including cavernous transformation of the portal vein, congenital hepatic fibrosis, hereditary hemorrhagic telangiectasia, Gilbert syndrome, and Dubin-Johnson syndrome.

Conclusion: Ceruloplasmin is commonly dramatic decline in Wilson disease, and mild change could occur in other liver diseases. For these patients, we should pay attention to identification.

Disclosures

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