

ROLE OF SERUM FERRITIN LEVEL IN THE DIAGNOSIS OF NON-ALCOHOLIC FATTY LIVER DISEASE

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Background: Non-alcoholic fatty liver disease (NAFLD) is characterized by excessive liver fat accumulation and is a major cause of progressive liver disease. Serum ferritin is a biochemical parameter which is elevated in several clinical conditions including both acute and chronic liver diseases. It may indicate hepatic inflammation, necrosis and fibrosis progression in NAFLD due to its association with iron buildup and inflammation. The aim of the study is to assess the role of serum ferritin as an effective marker in the diagnosis of NAFLD. **Methods:** This cross sectional study was conducted at Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic disorders (BIRDEM) General Hospital, Dhaka on patients attending department of Gastrointestinal, Hepatobiliary and Pancreatic Disorders (GHPD). Purposive sampling technique was applied to enroll the subjects according to selection criteria. Statistical significance was set at 0.05 level and confidence interval at 95% level. **Results:** This study included 206 patients. They were divided into two groups on the basis of ultrasonogram of abdomen. Among them 136 patients had NAFLD (Group-A) and 70 patients had normal liver (Group-B). Serum ferritin level was measured in all patients. The mean±SD of serum ferritin was significantly higher among Group-A (326.88±203.94) than Group-B (57.23±14.55) (p <0.001). ROC analysis for serum ferritin level yielded an AUC of 0.993. Sensitivity, specificity, PPV, NPV and accuracy at cut off value 77 ng/ml were 94%, 97%, 94%, 97%, 96%; at 78.5 ng/ml were 95%, 97%, 94%, 97%, 96%; at 81.5 ng/ml were 98%, 95%, 92%, 99%, 97%; at 82.6 ng/ml were 94%, 98%, 99%, 89%, 95% and at 86 ng/ml were 92%, 98%, 90%, 92% and 90% respectively. The cut-off value of serum ferritin e^{81.50} ng/ml showed the highest accuracy. **Conclusion:** The findings of this study suggest serum ferritin is an important biochemical test of NAFLD.

Keywords: Serum Ferritin Level, Non-Alcoholic Fatty Liver Disease

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