Serum ferritin was associated with intrahepatic magnesium level in patients with non-alcoholic fatty liver disease

Keisuke Kakisaka[1], Tokio Sasaki[1], Miki Yonezawa[1], Takehiro Akiyama[1], Yohei Okada[1], Yudai Fujiwara[1], Hiroki Sato[1], Tamami Abe[1], Yuji Suzuki[1], Yuichi Yoshida[1], Takayoshi Oikawa[1], Hidekatsu Kuroda[1], Akio Miyasaka[1], Koichiro Sera[2] and Yasuhiro Takikawa[1]

[1]Division of Hepatology, Department of Internal Medicine, Iwate Medical University
19-1 Uchimaru, Morioka, Iwate 020-8505, Japan

[2]Department of High Energy Medical Research, Iwate Medical University
348-58 Tomegamori, Takizawa, Iwate 020-0603, Japan

Abstract

The prevalence of non-alcoholic fatty liver disease (NAFLD) has strikingly increased. Non-alcoholic steatohepatitis (NASH) shows progression of liver fibrosis in NAFLD. Serum ferritin level was associated with disease severity of NAFLD and insulin resistance. Although iron overload induced elevation of liver enzyme through increase oxidative stress, phlebotomy did not normalize liver enzyme in the NAFLD patients with hyperferritinemia. We evaluated intrahepatic trace elements using Particle-induced X-ray emission (PIXE) analysis and confirmed relationship among serum ferritin level and these elements in the NAFLD patients.