Serum ferritin is a major determinant of lipid phenotype in familial combined hyperlipidemia and familial hypertriglyceridemia.

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Source
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Abstract
Familial combined hyperlipidemia (FCH) and familial hypertriglyceridemia (FHTG) share pathogenic mechanisms and a high interaction with components of the metabolic syndrome. The metabolic syndrome associates increased serum ferritin concentration and high cardiovascular risk. The objective was to describe the frequency of iron overload and the relationship between serum ferritin and the phenotype in patients with FCH and FHTG. The study was composed of 211 consecutive unrelated patients aged at least 18 years with primary hypertriglyceridemia, 149 with FCH, and 62 with FHTG. The prevalence of the metabolic syndrome and hyperferritinemia was very high in both hypertriglyceridemic groups (51.7% and 20.1% in FCH and 62.9% and 16.1% in FHTG, respectively), without significant statistical differences between them. Serum ferritin concentration did not show any significant association with the number of metabolic syndrome criteria.

Subjects in the highest tertile of ferritin concentration (ferritin >200 mug/L) presented higher concentrations of triglycerides and liver enzymes than subjects in the first tertile of ferritin concentration (ferritin <90 mug/L). The highest positive correlation coefficient for triglycerides was found with ferritin in FCH and in FHTG subjects (R = 0.317 [P < .001] when combined). Ferritin was also the covariate that showed the highest independent association with triglycerides in FCH and FHTG. In contrast, ferritin was not associated with carotid intima-media thickness. In summary, serum ferritin is commonly increased in FCH and in FHTG, it is not related with the presence of metabolic syndrome, and it is highly correlated with liver enzymes.

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