

Liver Enzymes in Metabolic Syndrome

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Abstract

Non-alcoholic fatty liver disease (NAFLD) is a frequent accompaniment of metabolic syndrome (MS). It is associated with increased levels of serum enzymes alanine aminotransferase (ALT) and gamma-glutamyl transferase (γ GT). We studied abnormalities of liver enzymes in 1437 apparently healthy subjects of whom 259 had MS. ALT, γ GT and alkaline phosphatase (SAP) were significantly increased in MS. Aspartate aminotransferase (AST), on the other hand, was lower in MS after adjustment for other variables. Of the various components of MS, ALT was most strongly related to body-mass index, γ GT to serum triglycerides and SAP to systolic blood pressure. All liver enzymes decreased with age except for SAP. Extra-hepatic sites of origin of AST and SAP appear likely explanation for their negative or weaker association with MS.

Key words : Non-alcoholic fatty liver disease, alkaline phosphatase, cholesterol, triglycerides, body-mass index