



Early identification of cognitive decline in metabolic syndrome

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Abstract

Metabolic syndrome (MetS) may be a prodromal manifestation of vascular cognitive impairment. Diagnosing early stages of cerebrovascular pathology can lead to prevention and delay of the progression of pathological conditions such as vascular cognitive impairment. The objective of the study was to investigate new biomarkers for early diagnosis of MetS and cognitive decline as a follow-up. A cardiological, neuropsychological and neurological study was conducted among 75 Bulgarian participants. Beta amyloid in the blood, procalcitonin (PCT), NT-proBNP as predictors of cognitive impairment in patients with metabolic syndrome were identified. Clinical, anthropometric, biochemical, neuropsychological, cognitive and statistical data processing. Plasma amyloid beta (A β) levels, procalcitonin, NT-proBNP in MetS were investigated in participants with MetS and in group of healthy people. TS

In the present study, plasma levels of A β 42 and A β 40 were found to be reduced in MetS participants. Procalcitonin concentration was significantly higher in males than in females. NT-proBNP was significantly higher in females than in males ($p < 0.001$). Regression analysis showed a positive relationship between NT-proBNP and systolic blood pressure ($p < 0.001$) and fasting blood glucose ($p < 0.05$). An inverse relation between NT-proBNP and diastolic blood pressure, waist circumference, triglycerides, HDL- and LDL cholesterol was found. There was a positive association between PCT levels, decreased levels of A β 42 and A β 40, as well as elevated NT-proBNP and cognitive impairment in people with MetC. A concentration of NT-proBNP of 60 pg / ml or greater could be an indicator of metabolic abnormalities and early cognitive decline.

Biography

Galya Atanasova completed her Ph.D. training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Pleven Medical University, Bulgaria. She is a Cardiologist, assistant prof. at the Department of Internal Medicine, University Hospital Pleven, assistant prof. at the Department of Forensic and General Medicine and General Practitioner University, Bulgaria. She specialized in General Medicine from Pleven Medical University, Bulgaria during 1993.

Publications

Prevalence of the metabolic syndrome among clinically healthy people in the Pleven region, 2010

Genetic markers for myocardial infarction in the Pleven region, 2011

Genetic polymorphisms of plasminogen activator inhibitor (PAI I) and apolipoprotein E in patients with Acute Coronary Syndrome, 2012

Risk factors and biochemical markers for ischemic disease

Communication skills needed to communicate with patients in General Medical Practice



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