

Levels of NT-proBNP and lipolysis in obese patients with cardiovascular disease

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Physiologically, brain natriuretic peptides (BNP) and lipolysis are closely linked. Obesity is been identified as a major risk factor for the development of cardiovascular diseases (CVD) and has been reported to have an impact on BNP in apparently healthy subjects but also in CVD patients. Thus, we speculate that BNP could play an important role in lipid metabolism and may affect the pathophysiology of obesity in CVD patients. Serum samples were obtained from CVD elderly patients distributed in 2 groups: I-non-obese and II-obese. The plasma mature form of brain natriuretic peptide (NT-proBNP) was measured by a sandwich enzyme immunoassay with spectrophotometric detection at 450 nm. Our study revealed for group I with BMI (22.77 ± 2.15) higher BNP levels (18.79 ± 16.87 pmol/L) versus group II (16.57 ± 20.81 pmol/L) with BMI 33.33 ± 4.75 . Thereby, despite a similar severity of CVD, levels of BNP were 11.81% lower in obese than in non-obese patients. Overall, these data demonstrates that obesity is an important and independent determinant of BNP expression in patients with CVD. Inverse relationship between BNP and body mass index may suggest "beneficial" effects of obesity, but clearly lower levels did not confer a more favourable prognosis. The precise mechanisms linking obesity to CVD remain unsolved and may be due either to release attenuation or increases in clearance receptors. These effects should be taken into account for appropriate BNP reference values, so lower cut-points should be used for obese patients and a higher cut-point for lean patients to increase specificity.

Biography

Simona Opris has completed Bucharest University- Biochemistry section and she is scientific researcher III, principal biochemist- medical biochemistry specialization, at National Institute of Gerontology and Geriatrics "Ana Aslan" from 2001. She has published as author/co-author in more than 20 scientific papers, over 50 national and international congresses and co-worker in 6 national research programs. Research fields: oxidative stress indicators of normal and pathological aging -nitric oxide, GPX, secondary cellular mediators-cyclic guanosine monophosphate-cGMP; homocysteine; cardiac markers-natriuretic peptides (NT-proBNP); heat shock proteins (HSP60); immunological investigation methods by ELISA.

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