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TITLE

INCREASED EPICARDIAL ADIPOSE TISSUE THICKNESS- AN EARLY CARDIAC RISK FACTOR IN OBESE MENOPAUSAL WOMEN WITH METABOLIC SYNDROME

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ABSTRACT

Context Epicardial Adipose Tissue (EAT) represents a metabolically active organ and a major source of anti-inflammatory and proinflammatory adipokines. The association between increased EAT thickness and obesity in menopausal women with metabolic syndrome is not yet established.

Objective Evaluate the role of increased EAT thickness as a cardiovascular risk factor.

Methods Observational cross-sectional study.

Patients Twenty-eight menopausal women were enrolled. Fifteen patients (study group) were overweight (BMI>28) with metabolic syndrome. The control group was composed of 13 lean, healthy menopausal women without metabolic syndrome.

Interventions Anthropometric parameters, blood chemistry panel and metabolic parameters were collected. The total body fat distribution and the gynecoid and android distribution were assessed by the DXA scanner. The echocardiogram was performed on all patients.

Main Outcome Measure Menopausal women with metabolic syndrome showed an increased EAT thickness and an altered cardiac performance.

Results The mean EAT thickness in the study group was significantly higher than in the control group ($p<0.02$). EAT thickness correlated with an increased android fat distribution ($P<0.001$) and with impaired diastolic function ($p<0.02$) in all patients. In the study group we found a poorer left ventricular diastolic function compared to controls ($p<0.02$). Increased intimal media thickness correlated with worsening myocardial performance index ($p<0.05$) and myocardial relaxation index ($p<0.04$).

Conclusions The increased EAT thickness in obese menopausal women with metabolic syndrome appears to be strictly related to an impairment of the cardiac function. An early detection of increased EAT in this group of patients by the echocardiographic exam may represent an important screening test.

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