EPICARDIAL FAT THICKNESS IN PATIENTS WITH AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE


Unit of Secondary Hypertension, Department of Internal Medicine and Medical Specialties, University of Rome, “Sapienza”, Italy
Department of Cardiovascular and Respiratory Sciences, University of Rome, “Sapienza”, Italy
Department of Clinical Medicine, University of Rome, “Sapienza”, Italy
Nephrology and Dialysis Unit, Hospital ICOT Latina, University of Rome, “Sapienza”, Italy
Division of Diabetes, Endocrinology and Metabolism, Department of Medicine, University of Miami, Miller School of Medicine, Miami, FL, USA.

Aim: Autosomal dominant polycystic kidney disease (ADPKD) is associated with early organ damage such as left ventricular hypertrophy (LVH) and higher cardiovascular risk when compared to essential hypertension (EH). Epicardial adipose tissue (EAT) is a new cardiovascular risk factor, but its correlation with LVH in ADPKD is unknown. We sought to evaluate the correlation of ultrasound measured EAT and LVH in a well-studied group of hypertensive patients with ADPKD in comparison with essential hypertension (EH) subjects.

Methods: We performed ultrasound measurement of the EAT and other echocardiographic parameters, such as left ventricular mass (LVM), left ventricular mass indexed by body surface area (LVMi), and left atrium size in 41 consecutive hypertensive patients with ADPKD, compared to 89 EH patients.

Results: EAT was significantly higher in ADPKD group respect to EH subjects (9.2±2.9mm vs 7.8±1.6mm, p <0.001), and significantly correlated with LVM, LVMi and left atrium size in the ADPKD group (r=0.56, p=0.005; r=0.424, p=0.022; and r=0.48, p=<0.001, respectively). Comparing EAT against body mass index (BMI), waist circumference (WC), systolic blood pressure (SBP), diastolic blood pressure (DBP) and age, we found that EAT is the strongest predictor of LVMi (B=0.59, p=0.036).

Conclusions: Our data shows that EAT is higher in ADPKD patients than in EH subjects and independently correlates with LVMi. EAT measurement can be as useful marker in the cardiovascular risk stratification in ADPKD.