Imaging

EPICARDIAL FAT VOLUME IS ASSOCIATED WITH THE SEVERITY OF CORONARY ARTERY DISEASE IN PATIENTS WITH PRESERVED EJECTION FRACTION

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Imaging: CT/Multimodality VI
Abstract Category: 20. Imaging: CT/Multimodality
Presentation Number: 1230-365

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Background: Metabolic syndrome (MetS) and Visceral fat obesity are associated with the increasing risk of ischemic heart disease (IHD). Thus, we assessed the relationship between the epicardial fat volume (EFV) and the characteristics of coronary plaques in patients with IHD, using 64-Multi Detector Computed Tomography (MDCT).

Method: We quantified body surface area indexed-EFV values (EFVi, ml/m2), and determined the severity of coronary stenosis in patients who underwent coronary angiography. Consecutive eighty patients (mean age, 66±10) with IHD were divided into 3 categories; group MetS, group high EFVi (≥94.7) without MetS), and group low EFVi (<94.7) without MetS). We evaluated the body mass index (BMI), waist circumstances, the Gensini score (GS), and the coronary plaque component.

Results: Plaques with spotty calcification were more frequent in group MetS compared to group low EFVi (p<0.05). GS was significantly different between the 2 groups(group MetS and group low EFVi), indicating a stepwise decrease in GS from MetS to high EFVi and to low EFVi. EFVi had a significant positive correlation with BMI (p<0.0043). GS had a significant positive correlation with EFVi (p<0.0001). However, no significant association was found between GS and BMI.

Conclusion: Patients with MetS have more epicardial fat volume and vulnerable plaques, and the characters of coronary lesions were more severe. The uneven distribution of epicardial fat might be more highly associated with the progression of IHD.