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18F-FDG uptake in the right atrium in patients with heart failure

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The purpose of this study was to evaluate 18F-FDG activity in the right atrium in a group of patients with ischemic cardiomyopathy, scheduled for viability assessment.

41 patients were evaluated according to the viability protocol with 18F-FDG. 39 men and 2 women were included with a mean age of 65.1 ± 9.6 years. The activity in the right atrium (RA) wall was corrected for blood-pool activity registered in the lumen of the RA. The tracer activity was compared with echocardiography parameters: LVEF; RA area; tricuspid annular plane systolic excursion (TAPSE) and RA area. Left ventricular ejection fraction (LVEF) was of 33.9 ± 10.0, the TAPSE was of 17.2 ± 4.2 and RA area 15.4 ± 4.9. The corrected 18F-FDG activity in RA wall was of 1.3 ± 0.5.

No correlation was seen between RA activity and LVEF: r=0.12, p=0.45. RA activity was related with the TAPSE: r=0.42, p=0.008 and the RA area: r=0.47, p=0.006.

It seems that right atrium 18F-FDG activity is related with right ventricle function and enlargement of the right atrium. Further studies should be performed in order to confirm these results and validate 18F-FDG activity in the right atrium as an image marker of right heart overload.