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Assessment of left ventricular volumes and ejection fraction by ultra-low-dose thallium SPECT on CZT camera; a comparison with magnetic resonance

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Aim: to verify the values of left ventricular volumes, ejection fraction and myocardial mass, obtained by ultra-low-dose thallium SPECT on CZT camera

Methods: Forty-five patients referred for assessment of myocardial perfusion or viability were examined on CZT SPECT scanner GE Discovery NM 530c and 1.5 T MRI scanner Philips Ingenia. The ultra-low dose protocol with 0.5Mbq 201-Tl per kg of body weight was used. The values of end-systolic (ESV) and end-diastolic volumes (EDV), left ventricular ejection fraction (EF) and myocardial mass (MM) were assessed by both techniques.

Results: There were found very good correlations between CZT SPECT and MRI for EF, ESV and EDV; Pearson coefficients were 0.86, 0.95 and 0.91 respectively; and moderate correlation for myocardial mass, r= 0.57.

Conclusion: Left ventricular volumes and ejection fraction assessed by ultra-low-dose CZT SPECT showed very good correlation with values obtained by MRI. Moderate correlation was found for myocardial mass.