Single Photon Emission Computed Tomography (SPECT)

Prognostic benefit of nonemergent revascularization on ischaemic dilated cardiomyopathy depending on patient symptoms

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INTRODUCTION: Both angina and dyspnea symptoms are the most common clinical manifestations of cardiac ischaemia. Nevertheless, cardiac ischaemia may be detected on control functional tests of patients with ischaemic dilated cardiomyopathy despite being asymptomatic. The aim of this study was to assess the effect of elective myocardial revascularization on patient's prognosis depending on baseline clinical symptoms.

METHODS: All consecutive patients with ischaemic left ventricular dysfunction (LVEF <40% determined by gated-SPECT) who underwent stress-rest SPECT in our hospital between January 2010 and February 2018 were included. Baseline patients' clinical presentation (angor pectoris, dyspnea or asymptomatic) and major adverse events (myocardial infarction, heart failure hospitalization and cardiovascular death) were retrospective recorded.

RESULTS: A total of 748 patients with multiple comorbid conditions (smoking habit 69%, hypertension 78,7%, diabetes mellitus 49,5%, atrial fibrillation 22,1%, previous myocardial infarction 69% and previous heart failure hospitalization 24,9%) were included. Nonemergent coronary intervention during the first year (17,9% of patients) was associated with a reduction in the composite event (HR 0.69 [0.5-0.95]) but the multivariate analysis showed a prognostic benefit of revascularization in symptomatic patients (HR = 0.59 [0.37 - 0.94]) that was not observed among asymptomatic patients. The relative risk of the composite endpoint was RR = 0.63 (p <0.001) for asymptomatic vs. symptomatic non-revascularized patients and RR = 1.09 (p = 0.60) for asymptomatic vs. symptomatic revascularized patients. Finally, asymptomatic patients presented more necrosis (17.3 vs. 20.2%, p <0.01) and less ischemia (9.7 vs. 5.7%, p <0.001) than symptomatic patients.

CONCLUSION: Patients with ischaemic dilated cardiomyopathy without symptoms of dyspnea or angina present less ischaemia and more necrosis in stress-rest SPECT than symptomatic patients. Moreover, unlike symptomatic patients, asymptomatic patients do not benefit from elective revascularization. Therefore, the clinical presentation should be considered when deciding revascularization of patients with ischaemic dilated cardiomyopathy and a positive SPECT test.

Abstract Figure. Kaplan-Meyer curves