Abstract: P290

SPECT myocardial perfusion imaging using regadenoson in end-stage lung disease: clearing the air and giving an answer

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Background: Coronary artery disease (CAD) is associated with increased morbidity and mortality in patients with chronic respiratory diseases. However, non-invasive diagnostic of CAD is limited, especially in patients with more advanced disease.

Purpose: We aimed to assess the feasibility and accuracy of single photon emission computed tomography-myocardial perfusion imaging (SPECT-MPI) stress testing with regadenoson in patients with end-stage lung disease (ESLD).

Methods: In total, 102 consecutive patients with ESLD (50% COPD; 50% ILD) were assessed retrospectively from 2012 to 2018. All patients underwent both SPECT-MPI and coronary angiography (CAG) as part of a lung transplant evaluation.

Results: The mean age was 58±6 years. Mean FVC and FEV1 were 50±16 and 36±20 % predicted, respectively. Mean 6-minute walking distance was 250±132m. 86% of patients required long-term oxygen therapy. Regadenoson-related symptoms requiring medical intervention were observed in 2 patients (2%). In total, 8/102 patients had abnormal SPECT-MPI. Revascularisation was performed in 5/102 patients. Specificity and negative predictive value of SPECT-MPI were 95% and 98%, respectively and were not influenced by sex, underlying lung disease, BMI, concomitant pulmonary hypertension, cardiovascular risk factors in multivariable regression analysis.

Conclusions: Our findings show that SPECT-MPI stress testing with regadenoson is well tolerated and has a high value to rule out CAD in patients with ELD.