

Ischemic Cardiopathy

Prognostic Usefulness of Low Ischemic Risk SPECT in non-ST Segment Elevation Acute Coronary Syndromes

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Background

Myocardial perfusion imaging tests are used for the clinical assessment of patients hospitalized with non-ST segment elevation acute coronary syndromes (NSTACS) who have favorable in-hospital outcomes with medical therapy. However, the prognostic relevance of a low ischemic risk. (LR) single photon emission computed tomography (SPECT) in patients with NSTACS managed with a conservative approach is uncertain, as most of the information derives from patients with chronic coronary artery disease.

Objectives

1) To analyze the outcomes of patients with NSTACS and LR SPECT at discharge, 2) to compare the results of a normal SPECT with transient perfusion defects (TPDs), permanent perfusion defects (PPDs) or combined defects (CDs), and 3) to determine the additional value of SPECT to classic risk variables.

Material and Methods

Patients admitted to the CCU with a NSTACS were included. Follow-up was continued during 12 months. *Definitions*: Clinical risk based on TIMI risk score. LR SPECT (under exercise or pharmacological stress): TPDs \leq 3/17 segments, PPDs \leq 3/17 segments, CPDs: TPDs + PPDs and normal:absence of defects. Clinical events (CEs): death/infarction or rehospitalization due to angina.

Results

A total of 137 patients were included (median age 59 years, 60% were men). A low TIMI risk score was present in 54% of patients and 46% presented a moderate risk. CE: 5.8%. The incidence of clinical events related to perfusion defects was as follows: normal: 2.1%, TPD: 4.5%, PPD: 5.9% and CPD: 25% ($p < 0.02$). At multivariate analysis, which included age, previous myocardial infarction, TIMI risk score and TPD, only CPD was identified as an independent variable for CEs: OR 7.8 (95% CI 1.2-49); $p = 0.02$. Positive predictive value, negative predicted value, positive likelihood ratio and negative likelihood ratio were 25%, 96%, 5.3 and 0.7, respectively.

Conclusions

A LR SPECT is useful for the prognostic assessment of patients with low or moderate risk NSTACS, as it identifies a population with a low incidence of CEs during the first year. The presence of CPD individualizes patients with worse outcomes which is important at the moment of decisionmaking.