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Myocardial Perfusion Imaging and Coronary Angiography in the Evaluation of the Functional Significance of Coronary Lesions

Background: Single-photon emission computed tomography (SPECT) can be used as a non-invasive tool for the assessment of coronary perfusion. The objective is to determine the functional significance of coronary lesions in one or more vessels, through myocardial perfusion imaging.

Methodology: Among patients with indications for a coronary artery angiography, those with significant lesions in one or several vessels were selected for the study. Within 15 days, cardiac SPECT examinations on exercise conditions and rest afterwards were performed. SPECT data from 22 patients with a low probability of coronary artery disease was used for comparisons.

Results: Twelve patients aged 55 \pm 7.53 years (ten men) were studied. Visual analysis of SPECT revealed signs suggestive of ischemia in ten patients. SPECT detected almost 80% abnormal vessels reported in the coronary artery angiography. There were 20% false negative results.

Conclusions: SPECT detected 80% of significant coronary lesions of major vessels found during coronary artery angiography. Visual analysis of perfusion is highly reliable for diagnosis and it is very useful for guided therapy. Quantitative parameters must be considered only as reference parameters.

Country/Organization invited to participate

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