

QUANTITATIVE PERFUSION IN CARDIAC SPECT IMAGING: FICTION OR FACT?

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Absolute quantification of myocardial blood flow (MBF) by PET is an established method of analysing coronary artery disease, but the limited availability of radiotracers is the main shortcoming. Myocardial perfusion imaging (MPI) by SPECT is the standard method of evaluating myocardial ischemia, but here the diagnosis is made mainly by visual analysis, rather than quantitation. Furthermore, extensive ischemia in patients with multi-vessel disease is often difficult to diagnose in a relative perfusion distribution pattern in SPECT. A new SPECT camera equipped with cadmium zinc telluride crystals not only has been shown improved spacial resolution, but also potential for dynamic perfusion analysis. From this dynamic scan, MBF as well as myocardial flow reserve (MFR) can be calculated. It still remains unclear whether MBF and MFR measured from SPECT can be used in clinical practice to recognise all critical coronary lesions, which need an appropriate coronary intervention.

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