

Longitudinal, Base-to-Apex Myocardial Perfusion Abnormalities in Patients with Coronary Artery Disease

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Abstract

Gould et al reported that diffuse coronary artery narrowing causes graded, progressively decreasing perfusion along the base-to-apex, longitudinal axis of the heart after dipyridamole. However, frequency and severity of longitudinal perfusion abnormality is unclear in patients with coronary artery disease who undergo coronary arteriography. We performed positron emission tomography with ¹³N ammonia in 9 patients with coronary artery disease (angina pectoris =7, myocardial infarction =2). Eight patients underwent coronary angioplasty of diseased vessel. ¹³N ammonia PET was performed at rest and after dipyridamole. The infarcted territories were excluded for analysis. All analyzed myocardial territories were perfused by coronary artery with less than 75% luminal narrowing. Longitudinal perfusion abnormalities was greater in myocardial territory which is perfused by angioplasty-performed vessel compared with that perfused by non angioplasty-performed vessel. We need further study to clarify clinical significance of longitudinal myocardial perfusion abnormality in patients with coronary artery disease.