Dokumenttyp: journal article

Autor(en) des Beitrags:
Fukushima, K; Javadi, MS; Higuchi, T; Lautamäki, R; Merrill, J; Nekolla, SG; Bengel, FM

Titel des Beitrags:
Prediction of short-term cardiovascular events using quantification of global myocardial flow reserve in patients referred for clinical 82Rb PET perfusion imaging.

Abstract:
Current noninvasive tests for coronary artery disease detect atherosclerosis or regional ischemia. Global myocardial flow reserve is not routinely identified, although it may be an additional marker of disease development and progression. For the clinical work-up of suspected or known stable coronary artery disease, 275 individuals had undergone rest-dipyridamole (82)Rb myocardial perfusion imaging using PET. In addition to clinical measures of regional perfusion and function, an experimentally validated approach to quantify global myocardial flow reserve was used. Follow-up was obtained for 362 ± 277 d. Myocardial blood flow and flow reserve showed significant correlation to systemic and cardiac hemodynamics and a weak association with risk factors such as age and history of hyperlipidemia. Flow reserve was expectedly lower in subjects with regional ischemia (1.70 ± 0.65 vs. 2.31 ± 0.97 in those without; P < 0.0001), but a wide range was observed in those without regional perfusion abnormalities. We used a composite endpoint of hard and soft events to determine that flow reserve below the median was predictive of adverse outcome in the overall population (P = 0.001) and in subjects with normal regional perfusion (n = 178; P = 0.036), whereas stress flow was predictive only in the overall population (P =
0.001). Age-adjusted multivariate analysis confirmed regional perfusion defects (relative hazard, 2.51; 95% confidence interval, 1.24-5.10; P = 0.009) and low global flow reserve (relative hazard, 2.93; 95% confidence interval, 1.30-6.65; P = 0.011) as independent predictors of cardiac events. In clinical cardiac (82)Rb PET, globally impaired flow reserve is a relevant marker for predicting short-term cardiovascular events. It may be used for integration with currently established functional and morphologic test results and for guidance of preventive measures, especially in the absence of regional flow-limiting disease.

Zeitschriftentitel / Abkürzung:
J Nucl Med

Jahr:
2011

Band:
52

Heft / Issue:
5

Seiten:
726-32

Sprache:
eng

Pubmed:

Print-ISSN:
0161-5505

TUM Einrichtung:
Nuklearmedizinische Klinik und Poliklinik

Occurences:
- Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Klinik und Poliklinik für Nuklearmedizin > 2011

entries: