

1S The Evolution of Cardiac Nuclear Imaging

Frank M. Bengel and Marcelo F. Di Carli

Bengel and Di Carli introduce this special issue of *JNM* on the current state of the art in cardiac molecular imaging and opportunities for future development.

3S Future of Radionuclide Myocardial Perfusion Imaging: Transitioning from SPECT to PET

Marcelo F. Di Carli

Di Carli reviews the role radionuclide imaging has played in coronary artery disease management and explores changes in myocardial perfusion imaging practice that will expand its role in multimodality imaging.

11S Quantitative Perfusion Imaging with Total-Body PET

Juhani Knuuti, Jouni Tuisku, Henri Kärpjoki, Hidehiro Iida, Teemu Maaniitty, Aino Latva-Rasku, Vesa Oikonen, Sergey V. Nesterov, Jarmo Teuho, Maria K. Jaakkola, et al.

Knuuti and colleagues summarize the status of total-body quantitative parametric perfusion imaging in research and clinical applications and describe opportunities and challenges in moving from single-organ to multisystem PET.

20S Molecular Imaging of Cardiac Amyloidosis: Recent Advances and Focus on the Future

Sharmila Dorbala and Marie Foley Kijewski

Dorbala and Kijewski discuss molecular imaging of cardiac amyloidosis using amyloid PET tracers, including recent innovations and future potential.

29S Molecular Imaging Biomarkers in Cardiooncology: A View on Established Technologies and Future Perspectives

David Kersting, Ilektra-Antonia Mavroiedi, Stephan Settlemeyer, Robert Seifert, Martin Schuler, Ken Herrmann, Tienush Rassaf, and Christoph Rischpler

Kersting and colleagues look at the many benefits of molecular imaging biomarkers, from pretherapeutic cardiooncologic assessment for primary prevention to personalized surveillance, detection, and differential diagnosis of cardiotoxic complications.

39S Imaging Inflammation Past, Present, and Future: Focus on Cardioimmunology

James T. Thackeray, Kory J. Lavine, and Yongjian Liu

Thackeray and colleagues describe progress in molecular imaging of immune cells in cardiology, including the expanding range of radiotracers, tracer–therapy compound pairs with shared targets, and additional research needed to advance clinical applications.

49S Myocardial Fibrosis: Emerging Target for Cardiac Molecular Imaging and Opportunity for Image-Guided Therapy

Frank M. Bengel, Johanna Diekmann, Annika Hess, and Michael Jerosch-Herold

Bengel and colleagues provide a road map for progress in basic fibrosis research, antifibrotic drug development, and high-end noninvasive imaging to facilitate the success of fibrosis-directed cardiovascular medicine.

59S Infection Imaging: Focus on New Tracers?

Wolfgang Roll, Andreas Faust, Sven Hermann, and Michael Schäfers

Roll and colleagues review clinically approved [¹⁸F]FDG PET in cardiovascular infections, new PET-based approaches using bacteria-specific molecular imaging methods, and promising tracer candidates and challenges to clinical translation.

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