THIS MONTH IN

JNM

Clinical nanoparticle imaging agents: Thakor and colleagues focus on nanoparticles used in human medical imaging, with an emphasis on radionuclide and MR imaging, as well as newer agents for theranostic and multimodal applications. . . . . ***Page 1833***

α-Radiotherapy for mCRPC: Oyen and de Bono provide perspective on current therapeutic experience with α-emitting agents and preview an article in this issue of *JNM* on a ^{225}Ac-labeled prostate-specific membrane antigen in metastatic castration-resistant prostate cancer. . . . . ***Page 1838***

CRT response prognosis: Miller and colleagues review an article in this month's *JNM* on a novel radionuclide approach to quantitative prediction of response to cardiac resynchronization therapy in patients with heart failure. . . . . ***Page 1840***

Early prediction in HNSCC: Wong and colleagues determine the value of early assessment (1 cycle of induction chemotherapy) with ^{18}F-FDG PET/CT and diffusion-weighted MR imaging for response to radical chemoradiotherapy in locally advanced head and neck squamous cell carcinoma. . . . . ***Page 1843***

^{18}F-FLT PET in NENs: Johnbeck and colleagues investigate ^{18}F-FLT PET as a prognostic marker for neuroendocrine neoplasms and compare results with those from ^{18}F-FDG PET and the Ki-67 proliferation index. . . . . ***Page 1851***

^{89}Zr-IAB2M minibody PC imaging: Pandit-Taskar and colleagues report on a phase I dose-escalation study with ^{89}Zr-desferrioxamine-IAB2 M, an anti–prostate-specific membrane antigen minibody, in patients with metastatic prostate cancer. . . . . ***Page 1858***

Preanalytical study of bone scan index: Anand and colleagues develop and perform preanalytical studies to assess the impact of variability in scanning speed and vendor-specific γ-cameras on reproducibility and accuracy of the automated bone scan index. . . . . ***Page 1865***

^{18}F-NaF PET repeatability: Lin and colleagues detail the repeatability of ^{18}F-NaF PET–derived SUV imaging metrics in individual bone lesions from patients with castration-resistant prostate cancer and multiple metastases. . . . . ***Page 1872***

Optimizing data for CRT selection: Badhwar and colleagues describe a novel scintigraphic method using new parameters of mechanical left ventricular dyssynchrony and correlate results with outcomes in heart failure patients with reduced ejection fraction receiving cardiac resynchronization therapy. . . . . ***Page 1880***

SPECT and absolute MBF: Nkoulou and colleagues compare K_1 uptake rate constants, as surrogates of absolute myocardial blood flow, and myocardial flow reserve index as assessed with a cadmium–zinc–telluride SPECT camera. . . . . ***Page 1887***

Assessing attenuation-corrected MPI: Huang and colleagues report on a systematic review and meta-analysis to determine whether attenuation correction improves diagnostic performance in myocardial perfusion imaging with SPECT, using coronary angiography as a reference standard. . . . . ***Page 1893***

PET for prognostic stratification in ILD: Nobashi and colleagues explore the clinical and prognostic utility of ^{18}F-FDG PET/CT in patients with interstitial lung disease by investigating relationships between PET/CT parameters and clinical indicators. . . . . ***Page 1899***

Imaging HAM brain inflammation: Dimber and colleagues use PET with ^{11}C-PBR28, a specific 18-kDa translocator protein ligand, and T1- and diffusion-weighted MR to image the brains of patients with human T-lymphotropic virus type 1–associated myelopathy. . . . . ***Page 1905***

Nuclear imaging in classic FUO: Takeuchi and colleagues systematically review reports on test performance, diagnostic yield, and management decision impact of nuclear imaging in patients with classic fever of unknown origin. . . . . ***Page 1913***

^{11}C-metformin imaging: Gormsen and colleagues extend previous preclinical findings to report on first-in-human ^{11}C-metformin PET dosimetry, biodistribution, and tissue kinetics. . . . . ***Page 1920***

ZTE-AC for brain PET/MR: Sekine and colleagues evaluate the clinical feasibility of PET/MR attenuation correction based on fast zero-echo-time MR imaging by comparing it with default atlas-based attenuation correction on a clinical PET/MR scanner. . . . . ***Page 1927***

Task-specific glucose metabolism: Hahn and colleagues validate a novel PET approach to assessing baseline cerebral glucose metabolism and task-specific changes in a single measurement with a constant infusion of ^{18}F-FDG. . . . . ***Page 1933***

^{225}Ac-PSMA-617 prostate cancer therapy: Kratochwil and colleagues report on results from the first 2 patients treated with this α-radionuclide–labeled prostate-specific membrane antigen ligand in advanced stages of prostate cancer. . . . . ***Page 1941***

^{11}C-CUMI-101 and α_1-adrenoceptors: Shrestha and colleagues describe assays of ^{11}C-CUMI-101 binding to α_1-adrenoceptors in vivo in the human cerebellum and in vitro in human, monkey, and rat cerebellum. . . . . ***Page 1945***

GEP NET imaging: Deroose and colleagues provide an educational overview of current and developing theranostic approaches to gastroenteropancreatic neuroendocrine tumors, including both primary and metastatic lesions. . . . . ***Page 1949***

Gastrointestinal sensitivity to radioembolization: Pasciak and colleagues perform an analysis of the effect of ^{90}Y radioembolization in a porcine model at different absorbed-dose endpoints to elucidate dosimetric thresholds for toxicity associated with the procedure. . . . . ***Page 1957***

Preclinical intratherapeutic PET: Mellhammar and colleagues test the feasibility of performing intratherapeutic PET on 3 preclinical systems using ^{22}Na point sources and phantoms filled with ^{18}F, ^{99m}Tc, or ^{177}Lu. . . . . ***Page 1964***

Perfusion study of NHL xenograft models: Mendler and colleagues characterize 2 non-Hodgkin lymphoma subtypes with comparable CD20 expression and metabolism as part of a search for preclinical animal models to evaluate tumor heterogeneity and hemodynamics in targeted antibody treatments. . . . . ***Page 1971***

^{18}F-SFB PSMA for prostate cancer imaging: Harada and colleagues evaluate 4 new prostate-specific membrane antigen probes using succinimidyl 4-^{18}F-fluorobenzoate, a rapid and effective labeling agent, in vitro and in PET imaging in human prostate cancer xenograft–bearing mice. . . . . ***Page 1978***

^{11}C-methionine and myocarditis: Maya and colleagues explore the potential of radiolabeled methionine to assess myocardial inflammatory activity in a rat model of experimental autoimmune myocarditis. . . . . ***Page 1985***

GIRLRG peptide for tumor-targeting: Kapoor and colleagues evaluate the novel GIRLRG peptide, which specifically targets glucose-regulated protein 78, for cancer-specific binding in vitro and noninvasive tumor imaging in vivo. . . . . ***Page 1991***

3D-printed kidney dosimetry phantoms: Tran-Gia and colleagues demonstrate the potential of 3D printing techniques for quantitative SPECT/CT imaging with a set of kidney dosimetry phantoms and their spheric counterparts. . . . . ***Page 1998***

^{64}Cu-ATSM and hypoxic plaque: Nie and colleagues determine the feasibility of ^{64}Cu-ATSM PET detection of hypoxia in a rabbit model of atherosclerosis imaged on a simultaneous PET/MR scanner, using MR for both attenuation correction and depiction of lesion location. . . . . ***Page 2006***

Induced PSCs and ischemic injury: Wu and colleagues investigate in vivo dynamic metabolic changes after transplantation of induced pluripotent stem cells and their derived enriched cardiomyocytes in a rat model of ischemic injury. . . . . ***Page 2012***

International PET/MR practice: Fendler and colleagues report on an operational and use survey of PET/MR imaging practices from 39 international sites. . . . . ***Page 2016***

Published studies and FDA approvals: Rieves and Jacobs summarize precedents for FDA approval of imaging agents using effectiveness data from publications, FDA guidance, and experience in reviewing publications, with a checklist for preparing reports on exploratory clinical studies. . . . . ***Page 2022***