THIS MONTH IN

JNM

Molecular imaging in the breast: Fowler offers an overview of technologic approaches to breast imaging with scintimammography and PET, as well as newer dedicated imaging systems and potential clinical indications and challenges. . . . . ***Page 177***

Digital revolution in radiosynthesis: Reichert provides an assessment of current developments in microfluidic reactors for radiopharmaceutical production and previews an article in this issue of *JNM* on a mechanically robust microfluidic radiosynthesis device. . . . . ***Page 181***

PRRT outcomes in GEP NETs: Ezziddin and colleagues look at prognostic stratification and predictors of survival in patients with metastatic gastroenteropancreatic neuroendocrine tumors after ^{177}Lu-octreotate peptide receptor radionuclide therapy. . . . . ***Page 183***

Integrated PET/MR for bone lesions: Eiber and colleagues evaluate the diagnostic performance of whole-body integrated ^{18}F-FDG PET/MR specifically for bone lesions and analyze differences in standardized uptake value quantification between PET/MR and PET/CT. . . . . ***Page 191***

^{18}F-FET PET in low-grade astrocytoma: Jansen and colleagues explore the value of dynamic ^{18}F-fluorethyltyrosine PET in early diagnosis and prognosis of astrocytic low-grade glioma. . . . . ***Page 198***

Quantitative somatostatin receptor PET: Velikyan and colleagues compare the performance of ^{68}Ga-DOTATOC and ^{68}Ga-DOTATATE PET in staging and selection of patients for ^{177}Lu-DOTA-octreotate peptide receptor radionuclide therapy. . . . . ***Page 204***

Thyroid blockade and ^{123}I-*m*IBG imaging: Friedman and colleagues examine the effectiveness of thyroid blockade in subjects undergoing ^{123}I-*meta*-iodobenzylguanidine imaging and estimate the relative contributions of bound and unbound radioiodine to imaging findings. . . . . ***Page 211***

Interim ^{18}F-FLT PET in NHL: Lee and colleagues report on a prospective study to determine the value of early interim ^{18}F-fluorothymidine PET in predicting response to treatment in patients with non-Hodgkin lymphoma. . . . . ***Page 216***

PET/CT and MR in recurrent prostate cancer: Kitajima and colleagues compare ^{11}C-choline PET/CT with pelvic multiparametric MR imaging for detection of recurrent prostate carcinoma after radical prostatectomy and assess optimal imaging approaches for restaging. . . . . ***Page 223***

PET/CT and survival in prostate cancer: Giovacchini and colleagues look at whether ^{11}C-choline PET/CT predicts survival in prostate carcinoma patients after radical prostatectomy and development of biochemical failure during androgen deprivation therapy. . . . . ***Page 233***

Sorafenib and girentuximab uptake: Muselaers and colleagues describe the effect of the widely used tyrosine kinase inhibitor sorafenib on the tumor-targeting potential of ^{111}In-labeled girentuximab in patients with clear cell renal cell carcinoma. . . . . ***Page 242***

Coronary flow reserve and CAD: Naya and colleagues use ^{82}Rb PET imaging to test the hypothesis that a normal coronary flow reserve is helpful in excluding the presence of high-risk coronary artery disease on angiography. . . . . ***Page 248***

^{18}F-D4-FCH human dosimetry: Challapalli and colleagues report on the safety, biodistribution, and internal radiation dosimetry profiles of this metabolically stable fluoromethylcholine analog in healthy volunteers and describe its potential for clinical PET imaging of choline metabolism. . . . . ***Page 256***

^{89}Zr and multicenter PET/CT studies: Makris and colleagues explore the feasibility of quantitative accuracy and harmonized quality in ^{89}Zr PET/CT images acquired at different sites, with a focus on reliably comparable results in multicenter studies. . . . . ***Page 264***

α therapy with ^{223}Ra-dichloride: Pandit-Taskar and colleagues provide an educational overview of the physical characteristics, clinical data, dosage, administration, optimal patient selection, and toxicities associated with this recently approved radium-labeled agent targeting osseous metastases. . . . . ***Page 268***

Imaging glia in brain metastasis: O'Brien and colleagues examine the spatial and temporal profiles of glial activation during early metastatic growth and assess the potential of the radiolabeled translocator ligand ^{123}I-DPA-713 for early SPECT detection of brain metastases. . . . . ***Page 275***

^{111}In-RGD$_2$ and integrin $\alpha_v\beta_3$-negative tumors: Terry and colleagues describe studies with ^{111}In-RGD$_2$ imaging of integrin $\alpha_v\beta_3$ expression only on blood vessels in tumor xenografts in which tumor cells were integrin $\alpha_v\beta_3$-negative, allowing specific visualization of angiogenesis. . . . . ***Page 281***

Motion correction for awake PET: Jin and colleagues report on the design and validation of 2 motion-correction algorithms for unrestrained, awake brain PET imaging in nonhuman primates. . . . . ***Page 287***

PDGFRβ imaging with Affibody molecules: Tolmachev and colleagues assess the feasibility of in vivo PET imaging of platelet-derived growth factor receptor β expression using a small nonimmunoglobulin affinity protein. . . . . ***Page 294***

In vivo PET tracking of Th1 cells: Griessinger and colleagues describe the development and validation of protocols minimizing the inhibitory effects of ^{64}Cu-PTSM labeling on T cell function and facilitating PET imaging of T cell "homing" patterns. . . . . ***Page 301***

^{68}Ga-NOTA-UBI29-41 PET and infection: Ebenhan and colleagues detail the development of a ubiquicidin-based tracer and its initial validation in animal studies as a PET/CT tracer for differentiation of infection from inflammation. . . . . ***Page 308***

Adenosine A_1R occupancy by (ant)agonists: Paul and colleagues explore the question of whether ^{11}C-MPDX PET can be used to visualize adenosine A_1 receptors occupancy by nonradioactive agonists and antagonists in rats. . . . . ***Page 315***

Synthesis of ^{18}F-FLT on microchips: Javed and colleagues detail the multistep synthesis of ^{18}F-FLT with high yield on a compact electrowetting-on-dielectric microfluidic radiosynthesizer, with the potential for PET probe production outside of cyclotrons and specialized radiochemistry facilities. . . . . ***Page 321***

PET/MR image attenuation correction: Mollet and colleagues describe the use of an annulus-shaped PET transmission source inside the field of view of PET for accurate attenuation correction at 511 keV in time-of-flight PET/MR imaging in humans. . . . . ***Page 329***

NCI/SNMMI workshop on targeted radionuclide therapy: Fahey and colleagues offer an overview of insights and discussions from a 2013 joint forum designed to focus on the current status of and strategies to advance radionuclide therapy. . . . . ***Page 337***