THIS MONTH IN

JNM

Molecular imaging in immunotherapy: Ehlerding and colleagues outline current applications of noninvasive techniques for preclinical imaging of immunotherapy targets and suggest future pathways for molecular imaging in this developing field. ***Page 1487***

New theranostic paradigm for DTC: Pattison and colleagues review the current role of molecular imaging in differentiated thyroid cancer and preview an article in this issue of *JNM* incorporating somatostatin receptor imaging in this setting. ***Page 1493***

PET renal GFR: Blaufox assesses the promise and challenges of nuclear medicine techniques in renal function evaluation and previews an article in this issue of *JNM* using a PET agent to measure glomerular filtration rates. ***Page 1495***

Reverse translation: Albin and Frey look at the potential of studies that "reverse" conventional scientific workflow by assessing clinical results in preclinical models and preview a related article in this issue of *JNM* focusing on biomarkers in Parkinson disease. ***Page 1497***

PET/CT and response in DTC: Jentzen and colleagues analyze pretherapy and follow-up ^{124}I PET/CT data on bone metastases from differentiated thyroid cancer patients to assess relationships between absorbed radiation dose with and response after initial radioiodine treatment. ***Page 1499***

Pretargeted immuno-PET in MTC: Bodet-Milin and colleagues report on optimized molar doses and pretargeting intervals of an anticarcinoembryonic antigen bispecific antibody and ^{68}Ga-labeled IMP288 for immuno-PET in relapsed medullary thyroid carcinoma. ***Page 1505***

SSTR PET/CT in DTC: Binse and colleagues evaluate the impact of ^{68}Ga-DOTATOC PET/CT in detecting recurrence or metastases in patients with differentiated thyroid carcinoma and elevated serum thyroglobulin with negative radioiodine and ^{18}F-FDG PET/CT results. ***Page 1512***

Breast parenchymal uptake on PET/CT: Leithner and colleagues quantitatively assess breast parenchymal uptake on ^{18}F-FDG PET/CT as an imaging biomarker and examine its correlation with background parenchymal enhancement, amount of fibroglandular tissue, and age. ***Page 1518***

HER2+ PET in HER2− breast cancer: Ulaner and colleagues determine whether imaging with a human epidermal growth factor receptor 2–targeted PET tracer can detect HER2-positive metastases in patients with HER2-negative primary breast cancer. ***Page 1523***

Simplified quantification of ^{18}F-FE-PE2I: Sonni and colleagues identify the optimal acquisition time window for this new dopamine transporter PET radioligand and validate the specific binding ratio as a simplified quantification method in Parkinson disease. ***Page 1529***

^{18}F-AV-1451 tracer kinetics: Shcherbinin and colleagues report on kinetic modeling results for dynamic acquisition data with this PET tau tracer in cognitively normal individuals and individuals with mild cognitive impairment and Alzheimer disease. ***Page 1535***

Parametric imaging of ^{18}F-DPA-714: Golla and colleagues identify the best method for generating quantitative parametric images of binding for this PET radioligand for the 18-kDa translocator protein. ***Page 1543***

Real-time microfluidic radioassay: Liu and colleagues describe a continuously infused microfluidic radioassay system for real-time in-culture measurement of cellular uptake, with initial tests on the influence of cellular glucose concentration on ^{18}F-FDG uptake kinetics. ***Page 1548***

PET in myelofibrosis: Derlin and colleagues assess the feasibility of ^{18}F-FDG PET/CT for noninvasive monitoring of treatment response after allogeneic stem cell transplantation in patients with myelofibrosis. ***Page 1556***

Radionuclide evaluation of brain death: Zuckier provides an educational overview of the evolution of scintigraphy in brain death, current clinical and imaging practice guidelines, limitations, and potential future expanded roles. ***Page 1560***

^{211}At-6 for PSMA-targeted α-therapy: Kiess and colleagues report on preclinical results with a urea-based, ^{211}At-labeled small molecule–targeting prostate-specific membrane antigen in mice bearing prostate cancer micrometastases. ***Page 1569***

Vascular-targeted radioimmunotherapy: Behling and colleagues investigate antibody targeting of the vascular endothelium of glioblastoma with cytotoxic short-range, high-energy α-particles in a clinically relevant transgenic glioblastoma mouse model. ***Page 1576***

Dual-activity vascular inflammation imaging: Withana and colleagues report on activity-based probes targeting cysteine cathepsins that can be used in murine models of atherosclerosis to noninvasively image activated macrophage populations with both optical and PET/CT methods. ***Page 1583***

Brain network activity and cell implantation: Peng and colleagues use PET to examine changes in brain network activity caused by striatal implantation of human levodopa-producing retinal-pigment epithelial cells in parkinsonian macaques. ***Page 1591***

^{18}F-MK-6240 and NFTs: Hostetler and colleagues describe preclinical characterization of this PET tracer targeting the neurofibrillary tangles associated with Alzheimer disease. ***Page 1599***

CD3 PET and immune therapy response: Larimer and colleagues examine the potential of ^{89}Zr-labeled, T-cell–targeting PET as a predictive marker in a murine model of colon cancer immunotherapy. ***Page 1607***

Imaging AT_1R-specific binding: Hachem and colleagues assess the binding profile of ^{18}F-FPy-KYNE-losartan, a novel PET agent for imaging the angiotensin type 1 receptor. ***Page 1612***

Specific activity in integrin PET: Notni and colleagues investigate the influence of specific activities of ^{68}Ga-aquibeprin and ^{68}Ga-avebetrin tracers for selective in vivo PET mapping of integrins $\alpha_5\beta_1$ and $\alpha_v\beta_3$, respectively. ***Page 1618***

^{18}F-fluorodeoxysorbitol renal PET: Wakabayashi and colleagues test in rats the feasibility of renal PET imaging with this analog of sorbitol that is freely filtered at the renal glomerulus without reabsorption at the tubule. ***Page 1625***

Cystine knot peptide photoacoustic imaging: Zhang and colleagues report on development and evaluation of a dye-labeled cystine knot peptide that selectively recognizes integrin $\alpha_v\beta_6$ with high affinity for photoacoustic and fluorescence imaging. ***Page 1629***

CT prediction from MR images: Wu and colleagues present a patch-based method for CT prediction from MR images, generating attenuation maps for PET reconstruction requiring no image segmentation or registration. ***Page 1635***

PVE correction in oncologic PET/CT: Cysouw and colleagues explore the effect of partial-volume correction combined with several volume-of-interest methods on the accuracy and precision of quantitative PET. ***Page 1642***

Fluorescence camera navigation: KleinJan and colleagues evaluate the feasibility of a nuclear medicine–based navigation concept that allows intraoperative positioning of a fluorescence camera in the vicinity of preoperatively defined sentinel nodes containing indocyanine green–^{99m}Tc-nanocolloid. ***Page 1650***

ASNC/SNMMI on PET MPI: Bateman and a collaborative team of experts from the American Society of Nuclear Cardiology and SNMMI release a joint position statement on clinical indications for PET myocardial perfusion imaging. ***Page 1654***