THIS MONTH IN

JNM

Fast tracking PSMA theranostics: Czernin and Eiber survey the rapid advance of prostate-specific membrane antigen–targeted diagnostics and radioligand therapy and address potential approaches to expediting regulatory approvals to advance these theranostics to wider clinical use. ***Page 1186***

Microdosing in drug development: Bergstrom looks at the theory and promise of microdosing, a regulatory concept introduced to facilitate exploratory studies in humans, and outlines challenges associated with extrapolation of low-mass microdoses to therapeutic levels. ***Page 1188***

^{177}Lu-PSMA in prostate cancer: Fendler and colleagues provide an educational overview of ^{177}Lu-prostate-specific membrane antigen radioligand therapy in metastatic castration-resistant prostate cancer, including patient stratification, protocols, medications, and follow-up. ***Page 1196***

Hyperpolarized MRI and cancer metabolism: Cho and colleagues highlight recent advances in hyperpolarized ^{13}C MR spectroscopic imaging and its applications in noninvasively interrogating tumor metabolism. ***Page 1201***

Targeting PSMA in CRPC: Hadaschik and Boegemann offer perspective on prostate-specific membrane antigen–targeted radioligand therapy in metastatic castration-resistant prostate cancer and point to the need for data on relevant endpoints, predictive/prognostic biomarkers, and optimal treatment sequences. ***Page 1207***

^{89}Zr-MSB0010853 biodistribution: Warnders and colleagues radiolabel the biparatopic Nanobody construct MSB0010853, which binds 2 different human epidermal growth factor receptor 3 epitopes, and use PET imaging to assess biodistribution and tumor uptake in mice. ***Page 1210***

^{11}C-sarcosine PET tracer: Piert and colleagues assess this radiolabeled substrate of proton-coupled amino acid transporters as a new PET imaging probe and compare results with those from ^{11}C-choline in 2 prostate cancer tumor xenograft models. ***Page 1216***

^{18}F-FAZA human biodistribution and dosimetry: Savi and colleague describe the results of a phase I study designed to evaluate the biodistribution and dosimetry of this PET biomarker for regional tumor hypoxia in patients with non–small cell lung cancer. ***Page 1224***

Dose rates after NET imaging: Zhang-Yin and colleagues measure dose rates in patients immediately after PET/CT or SPECT/CT imaging for neuroendocrine tumors to determine whether additional radioprotective measures should be required. ***Page 1230***

PET, *HIF2A* PPGL, and polycythemia: Janssen and colleagues assess optimal imaging approaches using 4 different PET radiopharmaceuticals and CT/MRI in patients with pheochromocytoma/paraganglioma–polycythemia syndromes. ***Page 1236***

PET/CT response evaluation in NSCLC: Usmanij and colleagues determine the utility of ^{18}F-FDG PET/CT after 1 treatment cycle in predicting response to chemotherapy in combination with bevacizumab in patients with advanced nonsquamous non–small cell lung cancer. ***Page 1243***

Bone marrow uptake in HL: Zwarthoed and colleagues analyze clinicopathologic correlations and prognostic significance of different patterns of early ^{18}F-FDG uptake in bone marrow in patients being treated for Hodgkin lymphoma. ***Page 1249***

Tumor metabolism in biliary tract cancer: Jo and colleagues use ^{18}F-FDG PET to explore the prognostic value of tumor metabolism and chemotherapy-related changes in patients with advanced biliary tract cancer. ***Page 1255***

MRI and PET in DIPGs: Gerstner offers perspective on imaging in the diagnosis of diffuse intrinsic pontine gliomas and assessment of treatment response and provides context for an article on this topic in this issue of *JNM*. ***Page 1262***

PET and MRI ADC histogram in DIPG: Zukotynski and colleagues describe baseline ^{18}F-FDG PET voxel characteristics in pediatric diffuse intrinsic pontine glioma and correlate these metrics with baseline MRI apparent diffusion coefficient histogram metrics, progression-free survival, and overall survival. ***Page 1264***

^{68}Ga-THP-PSMA imaging: Young and colleagues detail the development and preclinical evaluation of a ^{68}Ga radiotracer for imaging prostate-specific membrane antigen expression, with simple radiolabeling through addition of ^{68}Ga generator eluate to a cold kit. ***Page 1270***

^{18}F-FET kinetic modeling: Richard and colleagues compare different kinetic models in rats to determine which are more appropriate for PET imaging with ^{18}F-FET, an artificial amino acid used for tumor delineation and grading. ***Page 1278***

SUVR prediction for PET probe: Arakawa and colleagues describe a mathematic method to predict influx rate constants, efflux rate constants, and nondisplaceable binding potentials of amyloid PET tracers and predict SUV ratios with time–activity curves of target/reference regions. ***Page 1285***

Glucose metabolic profile in epilepsy: Zhu and colleagues use ^{18}F-FDG PET/CT imaging to evaluate the cerebral glucose metabolic profile in patients with epilepsy as part of an effort to elucidate correlations between metabolism and clinical severity. ***Page 1293***

Measuring longitudinal Aβ change: Bullich and colleagues determine in data from patients with mild cognitive impairment the optimal reference region that allows earlier detection of subtle amyloid-β changes using ^{18}F-florbetaben PET. ***Page 1300***

PET/CT and autoimmune encephalitis: Solnes and colleagues examine the role of neuroimaging in the setting of autoimmune encephalitides, comparing the utility of ^{18}F-FDG PET/CT with that of conventional brain imaging with MR. ***Page 1307***

RSNs from PET/fMRI: Savio and colleagues identify resting-state networks in ^{18}F-FDG PET data and compare their spatial patterns with those obtained from simultaneously acquired resting-state functional MRI data in healthy subjects. ***Page 1314***

MMP tracer for aneurysm imaging: Toczek and colleagues describe the development and preclinical evaluation of a novel matrix metalloproteinase inhibitor–based SPECT/CT tracer, ^{99m}Tc-RYM1, and compare it with a more commonly used tracer in murine models of aortic aneurysm. ***Page 1318***

PET interpretation agreement in CS: Ohira and colleagues investigate inter- and intraobserver agreement in interpretation of ^{18}F-FDG PET images in cardiac sarcoidosis and explore factors leading to discrepancies between readers. ***Page 1324***

^{11}C-GMOM human dosimetry: van der Aart and colleagues perform studies estimating the whole-body PET radiation dose in humans with the methylguanidine-derivative agent ^{11}C-GMOM. ***Page 1330***

Resin vs. glass spheres for ^{90}Y TARE: Van der Gucht and colleagues compare survival of patients treated for unresectable hepatocellular carcinoma with ^{90}Y-labeled resin- or glass-sphere transarterial radioembolization. ***Page 1334***

PET/CT in CS: Chareonthaitawee and members of an SNMMI/American Society of Nuclear Cardiology work group provide a consensus document on PET/CT in management of cardiac sarcoidosis, including indications for cardiac PET/CT, technical imaging recommendations, and optimal PET/CT clinical scenarios. ***Page 1341***