THIS MONTH IN

JNM

The AQARA principle: Weber and colleagues outline the reasons for complying with an "as quantitative as reasonably achievable" standard for radionuclide-based images in medical journals. ***Page 1***

Discussions with leaders: Peter L. Choyke conducts an interview with Martin G. Pomper on his training, his internationally known research laboratory at Johns Hopkins Medicine, and his groundbreaking work in radiolabeled agents targeting cancer diagnosis and therapy. ***Page 3***

PSMA-guided surgery: Maurer and colleagues highlight the potential of prostate-specific membrane antigen–guided surgery and discuss its implications in lymph node dissection in primary and recurrent prostate cancer. ***Page 6***

Hybrid tracers and surgical guidance: van Leeuwen and colleagues provide a topical review focusing on early clinical successes, preclinical directions, and future promise of radioactive and fluorescent bimodal or hybrid tracers as multiplexing solutions for surgical guidance. ***Page 13***

PET/MRI biomarkers in breast cancer: Leithner and colleagues assess potential differences in multiparametric ^{18}F-FDG PET/MRI biomarker imaging in contralateral healthy breast tissue in patients with benign or malignant breast tumors. ***Page 20***

PLC on high-res CT and PET/CT: Jreige and colleagues compare the performance of high-resolution CT with that of ^{18}F-FDG PET/CT for diagnosis of pulmonary lymphangitic carcinomatosis. ***Page 26***

Intratumoral metabolic heterogeneity: Yoo and colleagues analyze temporal changes in metabolic intratumoral metabolic heterogeneity and their predictive role in outcomes for patients with advanced pancreatic cancer and in palliative chemotherapy. ***Page 33***

PET dissemination features in DLBCL: Cottereau and colleagues define and study new ^{18}F-FDG PET radiomic features describing tumor dissemination and determine their added predictive value with baseline metabolic tumor volumes in patients with diffuse large B-cell lymphoma. ***Page 40***

PSMA PET/CT and Roach formula: Koerber and colleagues evaluate the role of prostate-specific membrane antigen PET/CT imaging in detecting nodal metastases and correlate results with risk of lymph node involvement using the Roach formula. ***Page 46***

^{68}Ga-PSMA-11 and ^{18}F-PSMA-1007: Rauscher and colleagues document the frequency of non–tumor-related uptake and detection efficacy of these 2 prostate-specific membrane antigen PET tracers in patients with recurrent prostate cancer. ***Page 51***

^{18}F-DCFPyL in biochemical failure: Rowe and colleagues detail the results of a prospective study evaluating PET/CT with this prostate-specific membrane antigen–targeting tracer in patients with biochemical failure after radical prostatectomy for prostate cancer. ***Page 58***

^{225}Ac-PSMA therapy and survival: Sathekge and colleagues report on experience with a series of patients with castration-resistant prostate carcinoma treated with ^{225}Ac–prostate-specific membrane antigen–617, identifying variables predictive for overall and progression-free survival. ***Page 62***

PSMA ligands for copper isotopes: dos Santos and colleagues detail development of 9 novel PET tracers that combine dedicated copper chelators with the prostate-specific membrane antigen–binding/urea-based binding motif and discuss potential theranostic and practical benefits. ***Page 70***

$^{203/212}$Pb agents for prostate cancer: Banerjee and colleagues describe the development of prostate-specific membrane antigen–targeted low-molecular-weight agents for ^{212}Pb-based radiopharmaceutical therapy in prostate cancer by evaluating ^{203}Pb, the matching γ-emitting surrogate. ***Page 80***

Bystander effects of ^{223}Ra: Leung and colleagues explore the contribution of ^{223}Ra treatment–induced antiproliferative/cytotoxic bystander effects in delayed growth of disseminated tumor cells in mice. ***Page 89***

Mitochondria and synaptic PET biomarkers: Mansur and colleagues characterize the kinetic behavior of 3 PET radioligands, ^{18}F-BCPP-EF, ^{11}C-SA-4503, and ^{11}C-UCB-J, for measurement of mitochondrial complex 1, σ-1 receptor, and synaptic vesicle protein 2A, respectively, and outline future workflows and applications. ***Page 96***

Tumor control in ^{90}Y radioembolization: Dewaraja and colleagues report on development of models for tumor control probability in radioembolization with ^{90}Y PET/CT–derived radiobiologic dose metrics. ***Page 104***

Dosimetry of ^{68}Ga-NODAGA-exendin-4: Boss and colleagues provide PET/CT-based dosimetric calculations for adults and children showing effective radiation doses from ^{68}Ga-NODAGA-exendin-4, a novel β-cell imaging tracer. ***Page 112***

PD-L1–targeted single-domain antibody: Lv and colleagues detail the design and development of a ^{68}Ga-labeled single-domain antibody tracer, ^{68}Ga-NOTA-Nb109, for specific and noninvasive imaging of programmed death ligand 1 expression in a melanoma-bearing mouse model. ***Page 117***

^{64}Cu PET imaging of CXCR4: Burke and colleagues describe a high-stability ^{64}Cu-labeled small-molecule PET agent for imaging both human and murine chemokine receptor chemokine C-X-C motif receptor 4. ***Page 123***

First experience with Biograph Vision: van Sluis and colleagues evaluate initial experiences with this PET/CT system, including perceived image quality and semiquantitative analysis, with the Biograph mCT as a reference. ***Page 129***

PennPET Explorer design and performance: Karp and colleagues report on the development and physical performance of this multiring system designed with a long axial field of view for whole-body PET imaging. ***Page 136***

PennPET Explorer human imaging: Pantel and colleagues present initial human imaging with the PennPET Explorer, with studies designed to test specific capabilities of the device, which can image the major body organs simultaneously and with high sensitivity. ***Page 144***

Multi-isotope small-animal SPECT: Lukas and colleagues assess simultaneous acquisition of multiple isotopes using a multiplexed multipinhole SPECT system, describe the extent of error sources, and propose experimental procedures for additional evaluation. ***Page 152***