

2022 highlights in oncology and therapy: Schöder reviews recent noteworthy studies in clinical radionuclide therapy and experimental science in the second of a 2-part series from the SNMMI Annual Meeting. *Page 2*

Discussions with leaders: Bodei and Czernin talk with Ken Song, president and CEO of RayzeBio, about his career as a physician, venture capitalist, industry CEO, and global research and commercialization leader. *Page 8*

CNS drug development: Seibyl provides a state-of-the-art look at imaging biomarkers for central nervous system drug development and the ways in which these have evolved and will inform future nuclear medicine practice in neurodegenerative disorders. *Page 12*

Brain trauma imaging: Bischof and Cross detail challenges posed by mechanistic understanding of chronic traumatic brain injury when interpreting molecular biomarker imaging and call for better target identification, improved analytic techniques, and novel tracer development. *Page 20*

Imaging activated T cells: Sako and Larimer offer an overview of recent advances in T-cell activation imaging and describe future directions for potential clinical nuclear medicine applications in immunotherapy. *Page 30*

CXCR4-directed theranostics in TCL: Buck and colleagues report on results in patients with advanced T-cell lymphoma who underwent ^{68}Ga -pentixafor PET/CT for C-X-C motif chemokine receptor 4-targeted therapy as a conditioning regimen, followed by hematopoietic stem cell transplantation. *Page 34*

Efficacy of submaximal dosage of PRRT: Minczeles and colleagues analyze outcomes with submaximal activities of ^{177}Lu -DOTATATE peptide-receptor radionuclide therapy in patients with neuroendocrine tumors who had discontinued treatment for non-disease-related reasons. *Page 40*

PCa theranostic survey: Beyer and colleagues detail the results of a web-based survey of global experience with and expectations of prostate-specific membrane antigen imaging using [^{68}Ga] or [^{18}F]-labeled ligands and PSMA-based radioligand therapy for prostate cancer. *Page 47*

Extended ^{177}Lu -PSMA treatment: Derlin and colleagues evaluate the feasibility, additional benefit, and toxicity of extending prostate-specific membrane antigen-targeted radioligand therapy in patients with metastatic castration-resistant prostate cancer. *Page 54*

$^{99\text{m}}\text{Tc}$ -MIP-1404 in RGS of recurrent PCa: Koehler and colleagues explore the feasibility of prostate-specific membrane antigen-radioguided

surgery with $^{99\text{m}}\text{Tc}$ -MIP-1404, a small-molecule PSMA inhibitor, in recurrent prostate cancer. *Page 59*

PSMA saturation after ^{68}Ga -PSMA-11: Siebinga and colleagues investigate the potential effects on ^{68}Ga -prostate-specific membrane antigen-11 tumor uptake in PET/CT when varying the administered peptide amount in patients with primary prostate cancer. *Page 63*

Imaging after ^{177}Lu -PSMA-617: Pathmanandavel and colleagues research the prognostic value of post-treatment quantitative PET assessment of prostate-specific antigen for progression-free and overall survival after ^{177}Lu -PSMA-617 therapy. *Page 69*

PET/CT in NSCLC and subsequent radiation: Sterbis and colleagues evaluate the use of ^{18}F -FDG PET/CT imaging before radiation therapy in patients with non-small cell lung cancer as recommended by national guidelines, including corresponding results in cancer-specific survival. *Page 75*

Fluorescence imaging of the pancreas: Mulder and colleagues report on the feasibility and safety of intraoperative tumor-specific imaging of pancreatic cancer with the near-infrared fluorescent tracer bevacizumab-800CW. *Page 82*

Sestamibi SPECT/CT for renal masses: Parihar and colleagues assess the diagnostic accuracy of $^{99\text{m}}\text{Tc}$ -sestamibi SPECT/CT for characterizing solid renal masses, specifically for differentiating malignant or aggressive renal tumors from benign or indolent lesions. *Page 90*

Whole-body PET/MRI in pediatric HL: Georgi and colleagues identify the optimal whole-body MRI sequence for pretreatment PET/MRI in Hodgkin lymphoma, with the intention of optimizing workflow and reducing imaging acquisition time. *Page 96*

PRoLoG initiative on Lugano classification: Ricard and colleagues present the first in a 2-part series on consensus recommendations from academic and industry experts in lymphoma and imaging for consistent application of the Lugano lymphoma classification system. *Page 102*

^{213}Bi -anti-CD20 for lymphoma in mice: Havlena and colleagues explore the feasibility of using α -emitting ^{213}Bi -anti-CD20 therapy with direct bioluminescent tracking of micrometastatic human B-cell lymphoma in a mouse model of non-Hodgkin lymphoma. *Page 109*

PET and systemic STING: Le and colleagues investigate whether activation of the systemic stimulator of interferon genes (a mediator of immune recognition of cytosolic DNA) induces metabolic alterations in immune cells that can be visualized by ^{18}F -FDG PET. *Page 117*

^{211}At -labeled anti-HER2 sdAb TAT: Feng and colleagues assess the therapeutic potential of targeted α -particle therapy with single-domain antibody fragments that bind with high affinity to domain IV of human epidermal growth factor receptor type 2. *Page 124*

^{18}F -Fluciclovine as a marker of GLSi: Zhou and colleagues assess ^{18}F -fluciclovine as a PET imaging biomarker for detecting the pharmacodynamic response to a novel glutaminase inhibitor, GLSi, in human breast cancer cells. *Page 131*

Antigen-inducible PET reporter system: Shin and colleagues detail engineering of a synthetic intramembrane proteolysis receptor PET reporter and its application to high-sensitivity cell-based antigen detection as well as mapping of engineered T-cell-antigen interactions in vivo. *Page 137*

Neutrophil elastase in COVID-19: Antoni and colleagues describe ^{11}C -NES, a novel PET tracer for neutrophil elastase, and evaluate it in a first-in-humans study in hypoxia related to COVID-19. *Page 145*

Credentialing statement for cardiac PET/MRI: Ruddy and colleagues from a joint professional task force provide a consensus statement intended to guide credentialing bodies that privilege physicians to oversee, supervise, and interpret cardiac PET/MRI for U.S. patient care. *Page 149*

Dedicated head PET: Ishii and colleagues assess ^{18}F -FDG and ^{18}F -flutemetamol brain PET images using both a time-of-flight system dedicated to the head and a conventional whole-body PET/CT system and compare results. *Page 153*

PET imaging of COX-1: Kim and colleagues analyze the selectivity of ^{11}C -PS13 binding to cyclooxygenase-1 in humans and assess the utility of ^{11}C -PS13 to measure the in vivo potency of nonsteroidal antiinflammatory drugs. *Page 159*

Excess cancer after ^{211}At TAT: Leidermark and colleagues provide data and insights on estimated relative risk of secondary cancer after ^{211}At -monoclonal antibody-based intraperitoneal targeted α therapy. *Page 165*

Experimental ^{212}Pb generator: Li and colleagues describe the development, performance, and radiation safety of an experimental generator for production of ^{212}Pb intended for radiopharmaceuticals. *Page 173*

Shortwave-infrared CLI: Mc Larney and colleagues report on studies showing that radioisotope shortwave-infrared Cerenkov luminescence imaging can be performed with unmodified commercially available components, offering advantages over visible-wavelength CLI. *Page 177*