THIS MONTH IN

JNM

LNT and medical imaging: Siegel and colleagues provide cautionary perspective on evidence relating to the linear no-threshold hypothesis and review alternative dose–response models. *Page 1*

Linear no-threshold background: Weber and Zanzonico offer additional insights into this controversial model for estimation of cancer induction risk and look at challenges to its application in diagnostic imaging. *Page 7*

PSMA-targeted therapy: Eiber and Herrmann summarize recent advances and clinical trials of prostate-specific membrane antigen–targeted radioligand therapy in prostate cancer and preview a related article in this issue of *JNM*. *Page 9*

PET/CT in colorectal cancer: Zukotynski and colleagues review recent restrictive guidelines on ^{18}F-FDG PET/CT in colorectal cancer and detail evidence for the important role such imaging plays in determining both initial treatment strategy and subsequent management in some patients. *Page 11*

PET/CT and lymphoma treatment response: Moghbel and colleagues provide an educational overview of data on the diagnostic and prognostic value of PET/CT for response assessment and pretransplant evaluation in lymphoma, with special emphasis on response-adapted therapy. *Page 13*

Metabolic PET and PD: Meles and colleagues review recent clinical studies in ^{18}F-FDG PET brain imaging in Parkinson disease, highlighting accompanying advances, differential diagnosis, prognosis, and treatment monitoring. *Page 23*

Dual modality–based bombesin antagonist: Zhang and colleagues describe development and initial studies of a PET/CT and fluorescent probe that can be used for noninvasive imaging of gastrin-releasing peptide receptors overexpressed in prostate cancer. *Page 29*

Preclinical ^{18}F-FDOPA PET in insulinoma: Detour and colleagues investigate the effects of carbidopa on ^{18}F-FDOPA uptake in insulinoma β-cells and in an insulinoma xenograft model in mice. *Page 36*

PET and NSCLC glucose metabolism: Valtorta and colleagues use ^{18}F-FDG PET to determine whether patient-derived non–small cell lung cancer xenografts reproduce in mice the metabolic glucose characteristics of corresponding parental tumors. *Page 42*

^{177}Lu-lilotomab satetraxetan tumor doses: Blakkisrud and colleagues develop dosimetric methods and calculate tumor-absorbed radiation doses for patients treated with this novel antibody radionuclide conjugate currently being tested in patients with relapsed CD37+ indolent non-Hodgkin lymphoma. *Page 48*

^{177}Lu-lilotomab satetraxetan red marrow dose: Blakkisrud and colleagues compare red marrow–absorbed doses for this novel antibody–radionuclide conjugate in 2 predosing arms of a phase 1/2a study in patients with CD37+ indolent B-cell non-Hodgkin lymphoma. *Page 55*

PET and bendamustine–rituximab in MCL: Lamonica and colleagues assess the predictive value of ^{18}F-FDG PET–assessed metabolic response to bendamustine–rituximab in patients with relapsed/refractory mantle cell lymphoma and compare results with those from conventional response criteria. *Page 62*

Multiparametric imaging in HNSCC: Rasmussen colleagues investigate the feasibility, reproducibility, and data correlation of multiparametric integrated PET/MR imaging in patients with head and neck squamous cell carcinoma. *Page 69*

NeoBOMB1 GRPR targeting: Nock and colleagues report on the biologic profiles of this potent gastrin-releasing peptide receptor antagonist labeled with $^{67/68}$Ga, ^{111}In, and ^{177}Lu in GRPR-expressing cells and mouse models, as well as initial PET/CT lesion visualization in men. *Page 75*

PSMA PET and androgen receptor inhibition: Hope and colleagues evaluate the effect of androgen receptor inhibition on prostate-specific membrane antigen uptake imaged using ^{68}Ga-PSMA-11 PET in a mouse xenograft model and in a patient with prostate cancer. *Page 81*

^{177}Lu-PSMA therapy safety and efficacy: Rahbar and colleagues detail the results of a large, multicenter study evaluating this promising agent for radioligand therapy in patients with metastatic castration-resistant prostate cancer. *Page 85*

^{68}Ga-DOTATATE and ^{18}F-FDG PET/CT in NETs: Panagiotidis and colleagues compare the clinical impact of these 2 imaging tracers on management plans and prognoses in patients with histologically proven neuroendocrine tumors. *Page 91*

Diabetes mellitus after PRRT: Umlauft and colleagues explore the risk of developing diabetes mellitus and its accompanying effects on all-cause mortality after somatostatin radiopeptide therapy for neuroendocrine tumors. *Page 97*

PET dynamic range for MBF quantification: Renaud and colleagues propose new performance standard measurements to characterize the dynamic range of PET systems for accurate imaging in quantification of myocardial blood flow. *Page 103*

^{11}C-JNJ-42491293 mGluR2 tracer: Leurquin-Sterk and colleagues report on evaluation of this novel high-affinity radioligand as a selective metabotropic glutamate receptor-2–positive allosteric modulator tracer in rats, a primate, and humans. *Page 110*

Overcoming BBB erlotinib efflux: Tournier and colleagues assess the efficacy of 2 different ABCB1/ABCG2 inhibitors to enhance brain distribution of ^{11}C-erlotinib in nonhuman primates as a model of human blood–brain barrier efflux. *Page 117*

^{123}I-iodobenzovesamicol SPECT in DLB: Mazère and colleagues use this SPECT radiotracer targeting the vesicular acetylcholine transporter to evaluate the integrity of the 3 main cholinergic pathways as well as striatal cholinergic interneurons in patients with dementia with Lewy bodies. *Page 123*

Epileptic activity and ^{18}F-FET PET: Hutterer and colleagues describe a retrospective analysis using ^{18}F-FET PET to investigate brain amino acid metabolism during epileptic seizures and to elucidate the associated pathophysiologic background. *Page 129*

MMP imaging of lungs: Golestani and colleagues explore the feasibility of in vivo matrix metalloproteinase–targeted molecular imaging for detection of lung inflammation and remodeling in mice. *Page 138*

Bacteria-specific tracers: Ordonez and colleagues detail a systematic approach that exploits unique biochemical pathways in bacteria to develop novel pathogen-specific imaging tracers with the potential to specifically detect and localize a broad range of bacteria, including multidrug-resistant organisms. *Page 144*

RA therapy monitoring: van der Geest and colleagues assess whether a radiolabeled anti–fibroblast activation protein antibody can monitor the treatment efficacy of long-circulating liposomes containing prednisolone phosphate in a mouse model of rheumatoid arthritis. *Page 151*

^{18}F-SO_3F^- PET and NIS: Khoshnevisan and colleagues report on a search for new ^{18}F-labeled human sodium–iodide symporter substrates offering higher specific activity, higher affinity, and simpler radiochemical synthesis than ^{18}F-BF_4^-. *Page 156*

^{89}Zr-labeled pembrolizumab imaging: England and colleagues evaluate the pharmacokinetics, biodistribution, and dosimetry of this humanized monoclonal antibody targeting programmed cell death protein 1 in mice and rats. *Page 162*

In vivo 3D REFT: Hu and colleagues describe 3D radiopharmaceutical-excited fluorescence tomography using europium oxide nanoparticles, which enhance Cerenkov luminescence signal intensity, improve penetration depth, and result in more accurate 3D radiopharmaceutical distribution. *Page 169*

Anti-PSMA CLI: D'Souza and colleagues compare Cerenkov luminescence imaging with PET for evaluation of the in vivo behavior of anti–prostate specific membrane antigen antibody-based radiotracers. *Page 175*