

TSPO PET in neurology: Vivash and O'Brien focus on new developments, current limitations, and potential future directions in PET imaging of translocator protein expression in neuroinflammation. *Page 165*

uPAR and glioma imaging: Hirata and Tamaki offer perspective on the potential of urokinase-type plasminogen activator receptor PET imaging in brain cancer and preview an article in this issue of *JNM* on 2 new uPAR-targeting agents in glioblastoma. *Page 169*

Molecular imaging in precision medicine: Ehlerding and Cai describe the potential of multimodality, multiparametric imaging to advance personalized cancer management and preview an article in this issue of *JNM* using such an approach to assess a drug's biologic effects. *Page 171*

DNA damage in radioiodine therapy: Eberlein and colleagues investigate DNA double-strand break formation and its correlation to absorbed dose to the blood in patients with surgically treated differentiated thyroid cancer undergoing a first radioiodine therapy for remnant ablation. *Page 173*

Triple-phase SPECT/CT in NEN: Ruf and colleagues compare the commonly used 3-day somatostatin receptor scintigraphy protocol for gastroenteropancreatic neuroendocrine neoplasms with a more patient-friendly 1-day protocol. *Page 180*

⁶⁸Ga-DOTATATE in head and neck PGLs: Jansen and colleagues compare the clinical utility of ⁶⁸Ga-DOTATATE PET/CT functional imaging in parasympathetic head and neck paragangliomas with that of anatomic imaging with CT/MR and other functional modalities, including ¹⁸F-FDOPA PET/CT. *Page 186*

Imaging angiogenesis in PAD: Takagi and colleagues explore the question of whether ^{99m}Tc-macroaggregated albumin perfusion scintigraphy can predict quantitated blood flow after therapeutic angiogenesis in patients with peripheral artery disease. *Page 192*

PVEC in ¹⁸F-florbetaben PET: Rullmann and colleagues ask whether partial-volume effect correction, adjusting for neocortical atrophy bias, improves the accuracy of quantitative ¹⁸F-florbetaben β -amyloid brain PET imaging. *Page 198*

¹¹C-PiB, ¹⁸F-FDG PET, and AD prediction: Grimmer and colleagues compare visual and automated techniques in assessment of amyloid deposition (using ¹¹C-PiB PET) and neuronal metabolism (using ¹⁸F-FDG PET) and resulting accuracies in predicting Alzheimer disease–associated dementia. *Page 204*

¹⁸F-THK5351 tau PET tracer: Harada and colleagues detail the development of a novel tau PET

tracer designed for imaging neurofibrillary pathology in dementia and describe initial studies in patients with Alzheimer disease. *Page 208*

Atlas-based attenuation correction: Sekine and colleagues evaluate a simplified atlas-based attenuation correction method for integrated PET/MR in the human brain by comparing ¹⁸F-FDG PET data corrected using either the simplified approach or true CT data. *Page 215*

Sex-specific brain changes and aging: Kakimoto and colleagues assess distinctive sex-specific changes in brain glucose metabolism and morphology using MR and ¹⁸F-FDG PET imaging during aging in cognitively healthy adults. *Page 221*

PET uptake time effect on response: Kurland and colleagues examine the influence of changes in time between tracer injection and ¹⁸F-FDG PET image acquisition on tumor response assessment using a virtual clinical trials approach. *Page 226*

Arsenic trioxide as radiation sensitizer: Modak and colleagues explore the utility of arsenic trioxide in enhancing the efficacy of ¹³¹I-MIBG therapy and test the combination in a trial focusing on recurrent/refractory stage 4 neuroblastoma and metastatic paraganglioma/pheochromocytoma. *Page 231*

CT dose in PET/CT: Jallow and colleagues report on diagnostic reference levels of the volumetric CT dose index from sites that conduct whole-body oncologic PET/CT examinations and participated in the scanner validation program of the SNMMI Clinical Trials Network. *Page 238*

¹⁸F-FIMX modeling: Zanotti-Fregonara and colleagues evaluate the ability of ¹⁸F-FIMX PET to quantify metabotropic glutamate receptor 1 in humans and use the relative density of receptor gene transcripts to estimate specific and nondisplaceable uptake in each brain region. *Page 242*

CXCR4-directed endoradiotherapy: Herrmann and colleagues summarize first-in-human experience with chemokine receptor 4–directed endoradiotherapy with ¹⁷⁷Lu- and ⁹⁰Y-pentixather in heavily pretreated patients with intramedullary and extensive extramedullary manifestations of multiple myeloma. *Page 248*

Gastrointestinal bleeding scintigraphy: Grady provides an educational overview of the diagnostic uses, appropriate methodologies, interpretive criteria, and special considerations for scintigraphic assessment of gastrointestinal bleeding. *Page 252*

SSTR agonist vs. antagonist therapy: Dalm and colleagues directly compare the therapeutic effects of ¹⁷⁷Lu-DOTA-octreotate, a somatostatin receptor agonist, and ¹⁷⁷Lu-DOTA-JR11, a somatostatin receptor antagonist, in both in vitro and in vivo studies. *Page 260*

Imaging radiation-induced marrow injury: Rendon and colleagues use ¹⁸F-FLT PET/CT to measure cellular proliferation in bone marrow and ultra-small superparamagnetic iron oxide MR imaging to assess radiation-induced vascular damage for “topological mapping” of radiation exposure and damage. *Page 266*

uPAR PET in glioblastoma: Persson and colleagues explore the potential of PET imaging of the urokinase-type plasminogen activator receptor in orthotopic xenografted glioblastoma tumors. *Page 272*

SPECT and NSC migration: Cheng and colleagues report on a strategy for mesoporous silica nanoparticle-facilitated SPECT tracking of ¹¹¹In-labeled neural stem cells and describe the potential for integration with MR for multimodal tracking of therapeutic cells to brain malignancies. *Page 279*

VEGFR-2 imaging in lung cancer: Luo and colleagues detail synthesis and characterization of Ramucirumab as part of a ⁶⁴Cu-labeled antibody-based PET agent for imaging vascular endothelial growth factor receptor 2 expression in vivo. *Page 285*

Microglial COX-1 in AD: Shukuri and colleagues describe the synthesis of an ¹¹C-labeled PET probe specific for microglial cyclooxygenase-1 and use it to investigate COX-1 changes during Alzheimer disease progression in a mouse model. *Page 291*

Cholinesterase visualization in AD: Macdonald and colleagues report on synthesis and evaluation of a cholinesterase-binding ligand, phenyl 4-¹²³I-iodophenylcarbamate, and its potential to image cholinesterase activity associated with brain β -amyloid plaques. *Page 297*

Dopamine imaging with ¹¹C-6MemTyr: Kanazawa and colleagues compare this novel PET probe with β -¹¹C-L-DOPA and 6-¹⁸F-fluoro-L-DOPA in quantitative imaging of presynaptic dopamine synthesis in the brains of normal and Parkinson disease model monkeys. *Page 303*

Imaging metoclopramide transport: Pottier and colleagues use ¹¹C-metoclopramide PET imaging to elucidate the kinetic impact in the brain of metoclopramide exposure on P-glycoprotein transporter function. *Page 309*

¹⁸F-labeled deuterated fluorodeprenyl: Nag and colleagues describe the development of this novel PET agent and initial evaluation of its potential to visualize and quantify monoamine oxidase B activity in vivo. *Page 315*

Molecular imaging of Src inhibition: Gao and colleagues use multiple approaches, including bioluminescence, ¹⁸F-FDG PET, integrin $\alpha_3\beta_3$ -targeted SPECT/CT, and vascular endothelial growth factor–targeted near-infrared fluorescence imaging, to guide dasatinib anti-Src therapy and aid in rational therapeutic design. *Page 321*