

**Interventional molecular imaging:** Solomon and Cornelis provide an introductory focus on interventional opportunities for molecular imaging, including guidance to localize targets, tissue analysis to confirm localization, in-room posttherapy assessment, and monitoring of targeted therapeutics. . . . . **Page 493**

**<sup>18</sup>F-FMISO hypoxia imaging:** Muzi and Krohn offer perspective on noninvasive assessment of hypoxia with <sup>18</sup>F-fluoromisonidazole PET and comment on a related article in this issue of *JNM*. . . . . **Page 497**

**New PET, old remedies:** Civelek previews an article in this issue of *JNM* that uses molecular imaging to elucidate mechanisms underlying a combined approach of stem cell therapy and traditional Chinese medicine in stroke. . . . . **Page 499**

**RGD PET in oncology:** Niu and Chen look at advances in integrin-targeted imaging probes based on the Arg-Gly-Asp tripeptide sequence and discuss an article in this issue of *JNM* using RGD-based PET in oncologic screening and therapy response monitoring. . . . . **Page 501**

**Individualized <sup>90</sup>Y-labeled DOTATATE therapy:** Kletting and colleagues develop and validate a treatment planning modeling method to determine the optimal combination of peptide amount and associated activity for each patient undergoing peptide receptor radionuclide therapy. . . . . **Page 503**

**PET prognosis in hepatocellular carcinoma:** Lee and colleagues assess the predictive value of <sup>18</sup>F-FDG uptake in patients with hepatocellular carcinoma after transarterial chemoembolization or concurrent intraarterial chemotherapy with external-beam radiotherapy. . . . . **Page 509**

**Radioembolization for liver metastases:** Fendler and colleagues evaluate the safety, efficacy, and prognostic factors for <sup>90</sup>Y-labeled microsphere radioembolization of unresectable liver metastases from breast cancer. . . . . **Page 517**

**RGD PET and GBM CRT:** Zhang and colleagues examine the value of a novel 1-step labeled integrin  $\alpha_v\beta_3$ -targeting <sup>18</sup>F-AIF-NOTA-PRGD2 PET scan in assessing sensitivity to concurrent chemoradiotherapy in patients with newly diagnosed glioblastoma multiforme. . . . . **Page 524**

**Perfusion and <sup>18</sup>F-FAZA uptake:** Iqbal and colleagues use <sup>15</sup>O-H<sub>2</sub>O PET data to explore the relationship between tumor perfusion and <sup>18</sup>F-fluoroazomycin arabinoside uptake in PET imaging of tumor hypoxia in patients with non-small cell lung cancer. . . . . **Page 530**

**Prognostic PET/CT in TNBC:** Groheux and colleagues describe the utility of <sup>18</sup>F-FDG PET/CT

at baseline and after 2 cycles of chemotherapy in predicting pathologic complete response and outcomes in patients with triple-negative breast cancer. . . . . **Page 536**

**Tracer avidity and gastric cancer recurrence:** Kim and colleagues ask whether the performance of PET in detecting gastric cancer recurrence is enhanced in patients with advanced <sup>18</sup>F-FDG-avid primary tumors. . . . . **Page 544**

**SPECT/MR fusion for SLNs:** Hoogendam and colleagues explore the accuracy of <sup>99m</sup>Tc-nanocolloid SPECT/MR image fusion for selective assessment of nonenlarged sentinel lymph nodes in diagnosing metastases in early-stage cervical cancer patients. . . . . **Page 551**

**<sup>68</sup>Ga-RM2 and <sup>68</sup>Ga-PSMA in prostate cancer:** Minamimoto and colleagues present pilot data on the biodistribution of these PET tracers in patients with biochemically recurrent prostate cancer and describe the potential for personalized imaging biomarker assessments. . . . . **Page 557**

**<sup>68</sup>Ga-PSMA PET and intraprostatic cancer:** Rahbar and colleagues evaluate the diagnostic value and accuracy of prostate-specific membrane antigen-targeting PET for intraprostatic delineation of prostate cancer before prostatectomy. . . . . **Page 563**

**Improving cardiac suppression for PET:** Scholtens and colleagues compare the effectiveness of 3 preparatory protocols in suppression of cardiac glucose metabolism in <sup>18</sup>F-FDG PET studies performed to detect cardiac inflammation and infection. . . . . **Page 568**

**Kinetic analysis of (S)-<sup>18</sup>F-THK5117:** Jonasson and colleagues report on tracer kinetic models for quantitative analysis and generation of parametric images for this novel tau ligand in patients with Alzheimer disease and mild cognitive impairment. . . . . **Page 574**

**PET/MR vs. PET/CT in lung lesions:** Sawicki and colleagues compare <sup>18</sup>F-FDG PET/MR imaging performance with that of <sup>18</sup>F-FDG PET/CT in detecting and characterizing lung lesions in oncologic patients. . . . . **Page 582**

**Attenuation correction in PET/MR imaging:** An and colleagues introduce an improved ultrashort echo time MR image-based attenuation correction method and compare it with manufacturer-provided CT- and MR-based methods in healthy volunteers and individuals with Parkinson disease. . . . . **Page 587**

**Intraperitoneal RIT dosimetry:** Palm and colleagues describe a biokinetic model for evaluation and optimization of intraperitoneal radioimmunotherapies for micrometastatic tumors and use

derived data to calculate optimal therapeutic approaches. . . . . **Page 594**

**Liposomal uptake and EPR effect:** Bolkestein and colleagues use injected <sup>111</sup>In-labeled pegylated liposomes and serial SPECT/CT imaging to evaluate the influence of the enhanced permeability and retention effect on liposomal distribution. . . . . **Page 601**

**Optimizing tau imaging agents:** Tago and colleagues synthesize and evaluate a range of new 2-arylquinoline derivatives as potential PET tracers for identification of hyperphosphorylated tau protein in neurodegenerative disease. . . . . **Page 608**

**Renal <sup>11</sup>C-metformin PET/CT:** Jakobsen and colleagues explore in a rat model the potential of <sup>11</sup>C-labeled metformin as a PET tracer for quantification of kidney proximal tubule function and estimation of renal function. . . . . **Page 615**

**PET and bacterial infection:** Vilche and colleagues synthesize and evaluate the biologic characteristics of the cationic peptide <sup>68</sup>Ga-NOTA-UBI-29-41 for PET/CT differentiation of infection from sterile inflammation. . . . . **Page 622**

**<sup>11</sup>C-methyl-aurine-conjugated bile acids:** Schacht and colleagues report on radiosynthesis of *N*-<sup>11</sup>C-methyl-aurine-conjugated bile acids and PET/CT biodistribution studies in pigs and discuss the potential for translation to functional imaging in patients with cholestatic diseases. . . . . **Page 628**

**<sup>18</sup>F-fluoroprolin for protein labeling:** Harada and colleagues describe the development of a cell-free translation system and an <sup>18</sup>F-labeled macromolecule for synthesis and characterization of <sup>18</sup>F-interleukin-8. . . . . **Page 634**

**Molecular imaging of VLA-4:** Soodgupta and colleagues detail ex vivo and in vivo PET evaluation of overexpressed very-late-antigen-4, a transmembrane adhesion receptor that plays an important role in cancer and immune responses, in multiple myeloma. . . . . **Page 640**

**Evaluation of mobile PET/CT:** Grogg and colleagues analyze and report on the performance of a novel mobile human brain/small-animal PET/CT system designed as a low-cost device with the capability of battery-powered propulsion, enabling use in many settings. . . . . **Page 646**

**Efficacy of targeted imaging agents:** Graham and Weber present an adaptation of Fryback and Thornbury's hierarchical scheme for modeling the efficacy of diagnostic imaging systems, specifically directed toward evaluating targeted imaging agents and streamlining the radiopharmaceutical approval process. . . . . **Page 653**