THIS MONTH IN

JNM

Imaging cell death: Neves and Brindle focus on apoptosis imaging probes that have shown promise in preclinical and clinical settings and provide an overview of challenges associated with cell death detection. . . . . ***Page** 1*

New age in radiolabeled agent therapy? Divgi offers perspective on the challenges and potential of radiopharmaceutical therapy development, with a focus on those agents intended for use with companion diagnostic imaging biomarkers. . . . . ***Page** 5*

^{64}Cu-based hypoxia imaging: Dearling and Packard provide context and background for an article in this issue of *JNM* on biodistribution of ^{64}Cu-ATSM, a potential hypoxia tracer, and its precursor ^{64}Cu-acetate. . . . . ***Page** 7*

^{131}I-BA52 benzamide for melanoma therapy: Mier and colleagues report on experience with labeling procedures for radioiodination of benzamides and on initial dosimetry data and therapeutic application of ^{131}I-BA52, a novel melanin-binding benzamide, in patients with metastatic melanoma. . . . . ***Page** 9*

Melanoma staging and ^{123}I-BZA2: Cachin and colleagues describe the development of a radiolabeled benzamide derivative that binds to melanin pigment in melanoma cells and compare its efficacy in scintigraphy with that of ^{18}F-FDG PET/CT in a phase III clinical study. . . . . ***Page** 15*

^{64}Cu-trastuzumab PET in breast cancer: Mortimer and colleagues evaluate ^{64}Cu-DOTA-trastuzumab PET/CT for detection and measurement of tracer uptake in patients with human epidermal growth factor receptor 2–positive breast cancer. . . . . ***Page** 23*

^{18}F-FDOPA PET in irradiated brain metastases: Lizarraga and colleagues examine the diagnostic accuracy as well as the prognostic power of ^{18}F-FDOPA PET for differentiating recurrent or progressive brain metastases from late or delayed radiation injury. . . . . ***Page** 30*

Effects of small tumor volumes: Brooks and Grigsby look at the effect of inclusion of very small tumor volumes on intratumoral uptake heterogeneity metrics derived from data from the current generation of whole-body ^{18}F-FDG PET scanners. . . . . ***Page** 37*

Cancer targeting with vitamin B12: Sah and colleagues investigate tumor-specific uptake of ^{99m}Tc-PAMA-cobalamin, a vitamin B12 derivative recognized by haptocorrin, in 10 patients with various metastatic tumors. . . . . ***Page** 43*

Cardiac CTA and SPECT MPI fusion: Kirişli and colleagues explore the additional diagnostic value of a software-based CT angiography/SPECT myocardial perfusion imaging fusion system over conventional side-by-side analysis in patients with suspected coronary artery disease. . . . . ***Page** 50*

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^{11}C-MK-8278 for brain receptor occupancy: Laere and colleagues evaluate biodistribution, dosimetry, and quantification of ^{11}C-MK-8278, a highly brain-penetrant and selective agent, in humans and assess its utility with PET in occupancy studies of 2 novel histamine H3 inverse agonists. . . . . ***Page** 65*

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Agreement in PET/MR and PET/CT: Al-Nabhani and colleagues prospectively compare whole-body PET/MR and PET/CT imaging, qualitatively and quantitatively, in oncologic patients and assess the confidence and degree of inter- and intraobserver agreement in anatomic lesion localization. . . . . ***Page** 88*

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Imaging cardiac sarcoidosis: Schatka and Bengel provide an educational overview of the clinical background and current state of diagnostic modalities and treatment for cardiac sarcoidosis. . . . . ***Page** 99*

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Atherosclerosis imaging with liposomes: Ogawa and colleagues detail the preparation of radiolabeled phosphatidylserine liposomes for macrophage targeting in SPECT detection of vulnerable plaques. . . . . ***Page** 115*

Enhancing tumor uptake of radiopeptides: Nock and colleagues explore the hypothesis that in vivo coadministration of specific enzyme inhibitors could improve peptide bioavailability and tumor uptake in tumor xenografts in mice. . . . . ***Page** 121*

Copper metabolism in hypoxia targeting: Hueting and colleagues compare ^{64}Cu retention after administration of ^{64}Cu-ATSM or ^{64}Cu-acetate in vitro in CaNT and EMT6 cells and in mice bearing corresponding tumors. . . . . ***Page** 128*

^{90}Y glass microsphere efficacy: Walrand and colleagues explore dose distribution questions posed by hepatic toxicities associated with ^{90}Y resin and glass microsphere liver radioembolization. . . . . ***Page** 135*

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Dual-tracer dynamic PET: Guo and colleagues investigate the utility of dual-tracer dynamic PET imaging with ^{18}F-alfatide II and ^{18}F-FDG for parametric monitoring of tumor angiogenesis and metabolism in response to therapy. . . . . ***Page** 154*

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