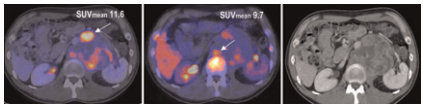
THIS MONTH IN

JNM

Small-molecule probes for apoptosis: Reshef and colleagues provide an overview of current approaches in developing highly specific probes suitable for clinical PET imaging of apoptosis and emphasize the importance of multidisciplinary contributions. . . . . ***Page 837***

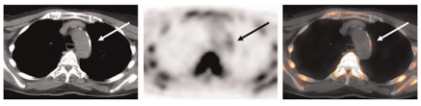
Monitoring response with ^{18}F-FLT PET: Weber reviews current work and highlights unanswered questions about the utility of this tracer for imaging tumor cell proliferation in a range of research and clinical oncologic applications.. ***Page 841***

^{18}F-FLT PET/CT in germ cell tumors: Pfannenberg and colleagues determine the value added by imaging with this tracer to ^{18}F-FDG PET in early response monitoring and prediction in patients with metastatic germ cell tumors. . . . . ***Page 845***

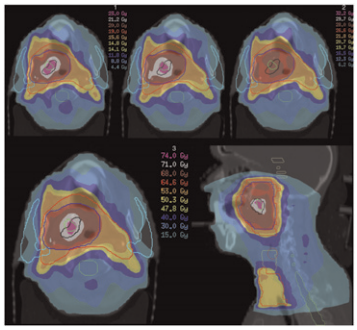


Nonlaxative PET/CT colonography: Taylor and colleagues investigate the technical feasibility and diagnostic performance of combined nonlaxative PET/CT colonography in patients at higher risk of colorectal neoplasia. . . . . ***Page 854***

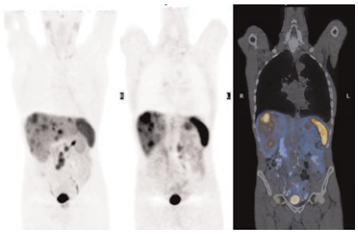
PET/CT plaque imaging: Derlin and colleagues assess ^{18}F-sodium fluoride PET/CT for imaging mineral deposition in arterial wall alterations and the potential of this technique to provide relevant information about morphologic and functional properties of calcified plaque.. . . . . ***Page 862***



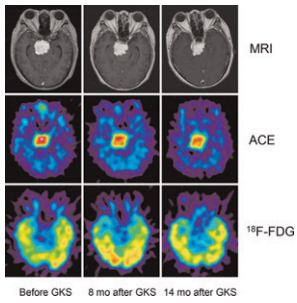
^{18}F-FLT PET/CT in oropharyngeal cancer: Troost and colleagues monitor early response with serial ^{18}F-FLT PET/CT imaging in patients with oropharyngeal tumors to identify subvolumes with high proliferative activity eligible for dose escalation. . . . . ***Page 866***



^{68}Ga-DOTATATE PET in NETs: Srirajaskanthan and colleagues evaluate the role of ^{68}Ga-DOTATATE PET in patients with negative or weakly positive findings on ^{111}In-DTPA-octreotide scintigraphy to determine whether PET detects additional disease and positively affects management decisions.. . . . . ***Page 875***



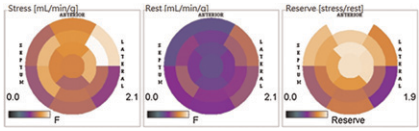
1-^{11}C-acetate PET and meningiomas: Liu and colleagues compare the merits of this PET tracer and those of ^{18}F-FDG in detection of meningiomas and in monitoring the effects of γ-knife radiosurgery. . . . . ***Page 883***



Clinical imaging of *HER2* expression: Baum and colleagues investigate the utility of a human epidermal growth factor receptor 2–targeting Affibody molecule for detection and characterization of *HER2*-positive lesions in patients with recurrent metastatic breast cancer. . . . . ***Page 892***

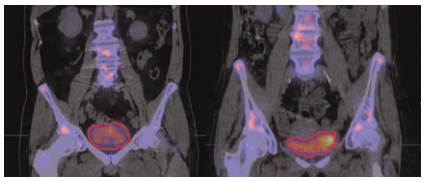
^{82}Rb PET/CT reference ranges: Bravo and colleagues establish reference values for left ventricular ejection fraction, end-systolic volume, and end-diastolic volume using 4 different commercial software packages and assess 2 approaches for defining a "healthy" individual. . . . . ***Page 898***

PET and cardiac allograft vasculopathy: Wu and colleagues evaluate the efficacy of dynamic ^{13}N-ammonia PET in identifying early stages of allograft vasculopathy and discuss the potential for beneficial management decisions after heart transplantation. . . . . ***Page 906***



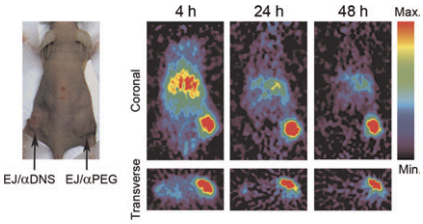
^{18}F-AV-45 AD imaging: Wong and colleagues describe the results of a study of this amyloid-β PET tracer in cognitively healthy controls and patients with Alzheimer disease to determine its ability to provide objective measures for evaluation of late-life cognitive impairment. . . . . ***Page 913***

Quantitative accuracy of ^{99m}Tc SPECT/CT: Zeintl and colleagues present a calibration method for quantitative ^{99m}Tc SPECT in a clinical SPECT/CT device, including ordered-subset expectation maximization with depth-dependent 3D resolution recovery, CT-based attenuation correction, and scatter correction. . . . . ***Page 921***



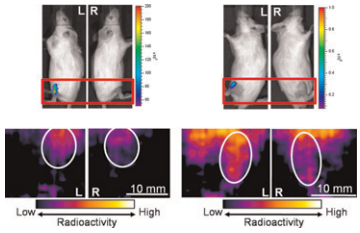
Variations in dosimetry with obesity: Clark and colleagues describe dose assessment phantoms that model the influence of obesity on specific absorbed fractions and dose factors in adults. . . . . ***Page 929***

Anti–polyethylene glycol reporter gene: Chuang and colleagues describe the construction of a versatile and nonimmunogenic reporter gene to noninvasively image gene expression or cell delivery by optical imaging, MR imaging, and small-animal PET. . . . . ***Page 933***



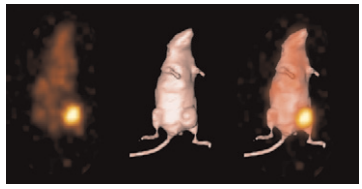
HER1*-targeted immunoPET:** Nayak and colleagues report on preclinical development of ^{86}Y-CHX-A″-DTPA-panitumumab for quantitative PET of epidermal growth factor receptor–expressing carcinoma. . . . . ***Page 942

Novel gene delivery and PET: Watanabe and colleagues outline a new methodology for gene therapy, using nanobubbles and ultrasound for nonviral gene delivery and PET and bioluminescence imaging for gene transfer detection. . . . . ***Page 951***

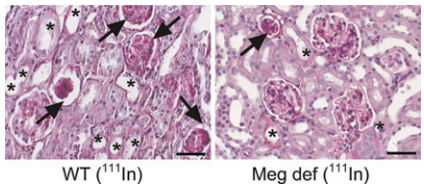


Imaging VEGFR after sunitinib: Levashova and colleagues determine whether noninvasive SPECT of vascular endothelial growth factor receptors, a target of antiangiogenic drugs, can provide real-time information on tumor responses to treatment.. . . . . ***Page 959***

ImmunoPET with ^{124}I-ch806: Lee and colleagues describe a PET-based method for detecting a constitutively active epidermal growth factor receptor associated with disease progression and resistance to chemo- and radiotherapy in glioma. . . . . ***Page 967***



Nephrotoxicity after ^{111}In SPECT: Melis and colleagues explore renal toxicity and radiation dose in a series of ^{111}In-labeled peptides using serial SPECT assessments in mice and discuss the implications for long-term renal damage with this tracer. . . . . ***Page 973***



Visualizing siRNA delivery: Kang and colleagues detail a novel ^{99m}Tc-radiolabeled method to image small-interference RNA targeting of a tumor biomarker of human telomerase reverse transcriptase in HepG2 tumor xenografts.. . . . . ***Page 978***

RIT survey: Schaefer and colleagues report the results of an e-mail survey assessing the opinions of U.S. oncologists and hematologists on experiences with and challenges to CD20-directed radioimmunotherapy. . . . . ***Page 987***

ON THE COVER

Molecular imaging using the ^{111}In- or ^{68}Ga-labeled Affibody molecule ABY-002 has the potential to localize metastatic lesions in vivo, adds qualitative information not available by conventional techniques, and may allow the *HER2* status to be determined for metastases not amenable to biopsy. In the patient shown here, a potential metastasis in the chest wall near the axilla was shown with ^{68}Ga-ABY-002 but was not visible with ^{18}F-FDG.

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