THIS MONTH IN

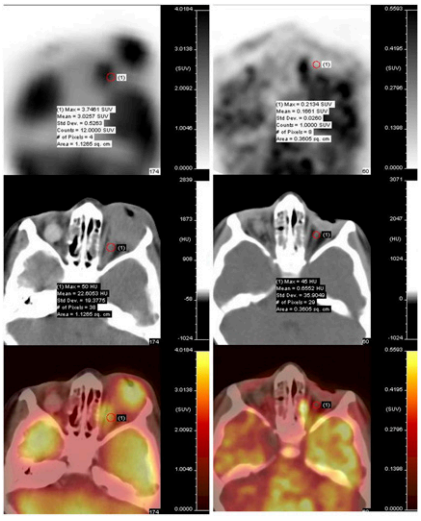
JNM

Enhancing PET technologies: Levin offers an overview of innovations in photon detection that may enable identification of more limited numbers of cells in tissues or characterization of lower abundance of molecular targets within cells. . . . ***Page 167***

^{13}N-ammonia PET/CT and MBF: Slomka and colleagues compare results obtained from 3 software tools for quantitation of PET myocardial blood flow and reserve. . . . . ***Page 171***

Clinical value of ^{18}F-FES PET: Kruchten and colleagues assess the added information provided by PET with this estrogen receptor–specific tracer in breast cancer patients presenting with inconclusive results after standard work-ups. . . . . ***Page 182***

PET/CT in retinoblastoma: Radhakrishnan and colleagues investigate the role of ^{18}F-FDG PET/CT in staging, neoadjuvant chemotherapy response evaluation, and final outcome assessment in stage III retinoblastoma. . . . . ***Page 191***



^{11}C-4DST PET/CT for NSCLC: Minamimoto and colleagues look at the potential of this new tracer, a proposed in vivo cell proliferation marker, for PET/CT imaging in patients with non–small cell lung cancer. . . . . ***Page 199***

^{18}F-FET PET metaanalysis: Dunet and colleagues provide a systematic review and metaanalysis of published reports on the diagnostic performance of this imaging tracer in patients with suspected primary brain tumors. . . . . ***Page 207***

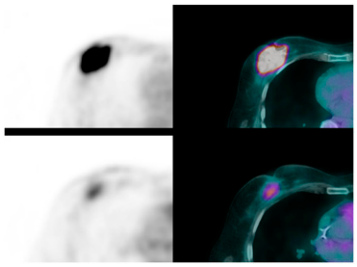
^{153}Sm-EDTMP dosimetry: Senthamizhchelvan and colleagues analyze the influence of administered activity, osteosarcoma tumor density and mass, and tumor shape on the absorbed dose of this promising radiopharmaceutical therapy that also facilitates scintigraphic imaging . . . . . ***Page 215***

SUV change and lung cancer outcomes: Guerra and colleagues explore associations between maximum standardized uptake values on ^{18}F-FDG PET before and after radiation therapy and survival outcomes for patients with locally advanced non–small cell lung cancer. . . . . ***Page 225***

TSPO expression in epilepsy: Hirvonen and colleagues use ^{11}C-PBR28 PET and MRI to determine whether expression of translocator protein, a marker of inflammation, is increased ipsilateral to seizure foci in patients with temporal lobe epilepsy. . . . ***Page 234***

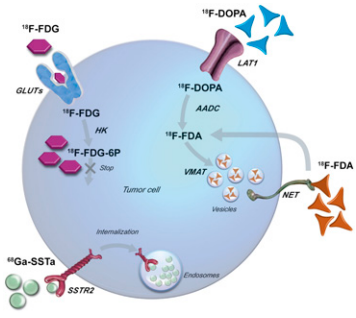
^{18}F-FDG in cardiac sarcoidosis: Youssef and colleagues present a systematic review and metaanalysis of studies that evaluate the accuracy of ^{18}F-FDG PET for diagnosis of cardiac sarcoidosis, using Japanese guidelines and also including data from a Canadian registry. . . . . ***Page 241***

PET in triple-negative breast cancer: Groheux and colleagues investigate whether early changes in ^{18}F-FDG tumor uptake during neoadjuvant chemotherapy can predict outcomes in patients with this aggressive breast cancer subtype. . . . . ***Page 249***



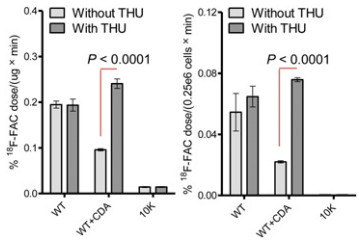
SPECT/CT dosimetry in liver cancer: Garin and colleagues use ^{99m}Tc-MAA SPECT/CT to calculate tumor and nontumor dosimetry in patients with hepatocellular carcinoma undergoing treatment with ^{90}Y-loaded glass microspheres. . . ***Page 255***

PET in paragangliomas: David Taïeb and colleagues provide an educational overview of PET imaging of these rare endocrine tumors with currently available and in-development tracers and discuss the related roles of imaging phenotypes and molecular genetics. . . . . ***Page 264***



Nucleoside PET for personalized therapy: Lee and colleagues explore a novel

PET assay using ^{18}F-FAC and a related probe to profile tumor lesions for specific enzymatic activities, with implications for tailoring nucleoside analog chemotherapy to individual needs. . . . . ***Page 275***



PET and response to ADI therapy: Stelter and colleagues analyze data from preclinical models of melanoma to determine whether ^{18}F-FDG assessments of response to therapy with arginine deiminase may be used to predict benefit or outcomes. . . . . ***Page 281***

PET and TSPO expression in glioma: Tang and colleagues evaluate a high-affinity pyrazolopyrimidinyl-based translocator protein imaging ligand as a translational probe for quantification of TSPO levels in glioma. . . . . ***Page 287***

Radioligand for 5-HT6 receptors: Parker and colleagues describe preclinical studies with a promising ^{11}C-labeled tracer that could enable in vivo imaging of brain 5-HT6 receptors, assessment of their involvement in disease pathology, and development of novel therapeutics. . . . ***Page 295***

Monitoring EpoR in cancer: Doleschel and colleagues detail the development of a novel erythropoietin receptor probe for fluorescence-mediated tomography investigation of these receptors in human lung cancer xenografts. . . . . ***Page 304***

Cerenkov luminescence and therapy monitoring: Xu and colleagues explore the use of Cerenkov luminescence imaging to monitor drug efficacy in tumor xenografts and compare their results with those from PET. . . . . ***Page 312***

RGD uptake and LV remodeling: Sherif and colleagues investigate whether myocardial ^{18}F-galacto-RGD uptake on PET early after myocardial infarction in rats is associated with long-term left ventricular remodeling. . . . . ***Page 318***

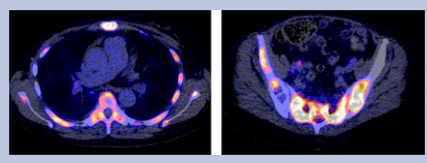
Automatic ictal SPECT injection: Setoain and colleagues assess the performance and clinical usefulness of an automated injector system for ictal SPECT that calculates the volume of tracer to be injected over time. . . . . ***Page 324***

Human dosimetry of ^{11}C-DPA-713: Endres and colleagues use whole-body PET/CT to characterize the radiation dosimetry of ^{11}C-DPA-713, a specific PET ligand for assessment of translocator protein. . . . . ***Page 330***

PET coverage workshop: Hillman and other participants review the proceedings of a Medical Imaging and Technology Alliance–sponsored workshop to consider new pathways for Medicare coverage of PET radiopharmaceuticals and imaging procedures currently subject to a national noncoverage decision. . . . . ***Page 336***

ON THE COVER

^{18}F-FES, an estrogen receptor–specific PET tracer with various potential interesting applications, has been found to be a valuable additional diagnostic tool when standard work-up is inconclusive. ^{18}F-FES uptake seemed to be predominant in bone marrow of the breast cancer patient shown above, in whom laboratory signs of bone marrow infiltration were present.



See page 188.