

¹⁸F-FLT PET and radiation response: McHugh and Shields provide an overview of challenges to predictive imaging with ¹⁸F-FLT PET in radiation therapy and offer key questions and a preview of a related article in this issue of *JNM*. **Page 813**

Shine-through artifact in PET/MR: Ratib looks at phenomena that may complicate interpretation of PET/MR images, with a focus on one potential effect of high magnetic fields on the trajectories of positrons emitted by PET radioisotopes. **Page 815**

¹⁶⁶Ho scout dose safety: Prince and colleagues calculate theoretic absorbed radiation from extrahepatic deposition of ¹⁶⁶Ho in scout doses before ¹⁶⁶Ho radioembolization for hepatic malignancies. **Page 817**

PET/CT in ER+/HER2–breast cancer: Groheux and colleagues investigate whether ¹⁸F-FDG PET/CT at baseline and during neoadjuvant chemotherapy is useful in early identification of estrogen receptor–positive/human epidermal growth factor receptor 2–negative breast cancer patients with poor clinical outcomes. **Page 824**

MTA protocols in DTC: Jentzen and colleagues assess simplified protocols for accurate ¹²⁴I blood dosimetry estimation of maximum tolerated activity that can safely be administered for ¹³¹I therapy in differentiated thyroid cancer. **Page 832**

¹²³I-MIBG scintigraphy in pheochromocytoma: Berkel and colleagues evaluate semiquantitative uptake of ¹²³I-MIBG to differentiate between pheochromocytomas/parangliomas and normal adrenal glands and explore genotype-specific differences associated with catecholamine transporter systems. **Page 839**

⁶⁴Cu-DOTATATE and NETs: Pfeifer and colleagues compare the diagnostic performance of ⁶⁴Cu-DOTATATE PET/CT and ¹¹¹In-DTPA-OC SPECT/CT imaging in patients with neuroendocrine tumors of gastroenteropancreatic or pulmonary origin. **Page 847**

⁶⁸Ga-PSMA I&T dosimetry: Herrmann and colleagues report on a patient-based study of whole-body distribution and radiation dosimetry with this new PET probe targeting prostate-specific membrane antigen. **Page 855**

¹²³I-iodobenzovesamicol quantification: Mazère and colleagues describe validation of a simplified acquisition method for quantitative analysis of ¹²³I-iodobenzovesamicol, a SPECT radioligand selective

for the vesicular acetylcholine transporter in neurologic disorders. **Page 862**

¹¹C-CNS5161 dosimetry: Dhawan and colleagues measure whole-body distribution of this PET tracer and estimate radiation doses to various organs to support future investigation of *N*-methyl-D-aspartate receptor function in systemic lupus erythematosus, traumatic brain injury, and Parkinson disease. **Page 869**

Shortened gastric-emptying protocol: Pelletier-Galarneau and colleagues evaluate in a large multicenter trial the accuracy of an abbreviated protocol for gastric emptying scintigraphy in detection of gastroparesis and other disorders of gastric motility. **Page 873**

PET/MR attenuation correction: Mehranian and Zaidi and colleague compare the performance of a novel algorithm with that of standard 4-class MR-based attenuation correction for accurate derivation of attenuation maps on time-of-flight PET/MR systems. **Page 877**

PET/MR motion correction: Fayad and colleagues assess 2 approaches previously implemented in PET/CT in the context of PET/MR motion correction for oncology applications using clinical 4-dimensional PET/MR acquisitions. **Page 884**

PET/MR respiratory motion correction: Manber and colleagues offer a practical, anatomy-independent MR-based correction strategy for PET data affected by respiratory motion. **Page 890**

Nanotubes and α -particle therapy: Matson and colleagues describe ultrashort carbon nanotube sequestration of ²²⁵Ac³⁺ ions in the presence of Gd³⁺ ions in a human serum challenge, with potential applications in α -particle-emitting radionuclide immunotherapy. **Page 897**

Lymphoscintigraphy and sentinel nodes: Moncayo and colleagues provide an educational overview of sentinel lymph node procedures that include lymphoscintigraphy in the setting of malignancies in the skin, breast, and head and neck. **Page 901**

PET and glucose-regulated protein GRP78: Wang and colleagues review the development of a ⁶⁴Cu-labeled probe for PET imaging of tumor GRP78 expression on cell surfaces and detail initial studies in pancreatic cancer xenografts. **Page 908**

Theranostic PSMA inhibitor: Benešová and colleagues report on a novel naphthyl-containing DOTA-conjugated prostate-specific membrane antigen inhibitor designed to both detect and treat prostate cancer. **Page 914**

Imaging low-grade cardiac hypoxia: Medina and colleagues describe and validate in animal studies an analog of ⁶⁴Cu-ATSM for identification of compromised but salvageable myocardium. **Page 921**

PET and AAA: Shi and colleagues use a ⁶⁴Cu-labeled anti-CD105 antibody Fab fragment for noninvasive assessment of angiogenesis in the aortic wall in a murine model of abdominal aortic aneurysm. **Page 927**

Molecular imaging of CAVD: Jung and colleagues investigate the feasibility of matrix metalloproteinase–targeted SPECT imaging for detection of valvular inflammation and remodeling in a murine model of calcific aortic valve disease. **Page 933**

Knottin for PET in vulnerable plaques: Jiang and colleagues introduce an engineered integrin $\alpha_v\beta_3$ –targeting PET probe, derived from a divalent knottin miniprotein, for imaging and assessment of carotid atherosclerotic plaques. **Page 939**

¹⁸F-FLT uptake in charged particle therapy: Lin and colleagues report on in vitro and in vivo studies designed to determine whether ¹⁸F-FLT can monitor early response of tumor cell proliferation to proton or carbon ion radiation therapy. **Page 945**

Addressing shine-through in PET/MR: Kolb and colleagues study the relevance and implications of artifacts resulting from magnetic field effects on the trajectory of positrons emitted by PET radioisotopes in hybrid imaging. **Page 951**

UPICT for ¹⁸F-FDG: Graham and colleagues provide a summary of the Uniform Protocols for Imaging in Clinical Trials (UPICT) protocol, which is intended to guide the performance of whole-body ¹⁸F-FDG PET/CT studies in single- and multiple-center clinical trials of oncologic therapies. **Page 955**

Image Gently and administered activity: Fahey and colleagues report on the impact at 13 dedicated pediatric institutions within the United States and Canada of the 2010 publication of North American guidelines on the practice of nuclear medicine in children. **Page 962**