Focus on ^{68}Ga and PRRT: 3rd Theranostics World Congress

The Third Theranostics World Congress on Gallium-68 and Peptide Receptor Radionuclide Therapy (PRRT), held March 12–14 at the Johns Hopkins University School of Medicine (Baltimore, MD), featured an international roster of experts who met to discuss current achievements and future potential for diagnostic and therapeutic applications of ^{68}Ga-labeled agents in neuroendocrine tumors (NETs) and other cancers. The congress was cosponsored by SNMMI and Johns Hopkins Medicine. The meeting brought together physicians, physicists, technologists, and basic scientists who shared perspectives that varied with their countries of origin. ^{68}Ga-labeled PET agents and therapeutically labeled somatostatin receptor ligands have been in clinical use in Europe for almost a decade. In the United States, ^{68}Ga agents have been used only under Investigational New Drug applications and, despite substantial research interest in theranostic uses in NETs, prostate, and other cancers, are only now nearing approval for wider use. The meeting followed previous congresses in Bad Berka (Germany) in 2011 and Chandigarh (India) in 2013.

"The 3rd Theranostics World Congress on Gallium-68 and PRRT was a very appropriate continuation of the first 2 ^{68}Ga congresses," said Michael Graham, MD, PhD, a professor of radiology and director of nuclear medicine at the University of Iowa (Iowa City), who served on the meeting's program committee and cochaired a session on the move toward ^{68}Ga radiopharmaceutical approvals in the United States. "At the time of the first congress in 2011, the United States was just getting started with clinical imaging with the ^{68}Ga-DOTA agents for NETs—now at least 11 sites are up and running. Although initial interest was in diagnostic imaging, we're seeing an increasing emphasis on combining ^{68}Ga-based diagnostic studies with ^{177}Lu and ^{90}Y therapy of NETs."

The evolution of ^{68}Ga applications was the focus for the meeting's 2 plenary speakers. Jean-Claude Reubi, MD, from the University of Berne (Switzerland), described "Peptide membrane receptors as targets in cancer," and Ralph Hruben, MD, from the Johns Hopkins School of Medicine, surveyed the potential for enhanced therapeutics based on "Genetic alterations in NETs."

Each day of the congress featured scientific sessions designed not only to share the latest knowledge but to do so in a forum that would be accessible to new and potential ^{68}Ga users. On March 12, sessions focused on "Generators, postprocessing, and synthesis modules," "Chelators and labeling chemistry for theranostic isotopes," and "Theranostic targeting vectors." March 13 sessions included "PRRT—status quo and where to go," "Targeting prostate cancer: imaging and therapy," and "Established and innovative applications for diagnosis and therapy." The final day included sessions on "State of the art management of NETs—clinician and patient perspectives," "Imaging with gallium—from D to T (diagnosis to therapy)," and "How to deliver theranostics." Abstracts of the 49 podium and 71 poster presentations from the meeting will be published as a supplement to a future issue of *The Journal of Nuclear Medicine*. Video proceedings of the meeting are available at www.snmmi.org and www.wcga68.org. In addition to the scientific sessions, the SNMMI-led Gallium Users Group met on March 12 for a general information and discussion session. A patient program on March 14 was attended by more than 70 patients and caregivers, who heard about updates in NET treatment and options for disease management.

Richard Baum, MD, at the Third Theranostics World Congress

One recurrent theme of the meeting was the way in which ^{68}Ga imaging and related theranostic applications may be pioneering an approach that can be extended to numerous other diagnostic and therapeutic combinations. Rapidly growing international interest, as seen at the congress, provides evidence that the full potential of ^{68}Ga applications remains to be explored. In reviewing the success of the meeting, Graham added, "The ^{68}Ga effort is now definitely expanding, and now includes prostate-specific membrane antigen (PSMA) receptor imaging of prostate cancer. Several sites in the United States are beginning to plan to do ^{68}Ga PSMA imaging. By the time of the 4th World Congress in Melbourne, Australia, in 2016, we will likely see equal numbers of papers on NETS and prostate cancer, along with other uses for ^{68}Ga that are emerging."