of a promising concept" [525]. In looking for a way to treat xerostomia in PSMA therapy in patients with metastatic castration-resistant prostate cancer, this group decided that instead of merely titrating the dose, they would inject botulinum toxin directly into salivary glands under ultrasound guidance. This first-in-human, single-patient study included ^{68}Ga-PSMA PET/CT baseline imaging, early ^{99m}Tc-pertechnetate salivary gland scintigraphy after injection of 80 units of botulinum toxin into the right salivary gland, and ^{68}Ga-PSMA PET/CT performed 45 days later (Fig. 15). The 45-day PSMA imaging showed a heterogeneous but highly significant reduction of radioligand uptake (up to 60% in the right compared to the left side and up to 64% compared to baseline PET/CT). Slow recovery of uptake was noted over 8 months. The patient reported no side effects at injection or during the follow-up period. The authors concluded that "this approach could be a significant breakthrough for salivary gland protection under PSMA radioligand therapy."

Summary

This has been a rapid journey through some of the many outstanding presentations at this meeting. It is difficult to summarize so much original work in such a short period of time. This is a very exciting time in which to be involved in nuclear medicine, with new discoveries and oncologic applications in molecular imaging and therapy accelerating rapidly. Some lessons are evident from these wide-ranging studies. We must be proactive in developing evidence- and outcomes-based studies for radionuclide therapies, for which we will need multicenter trials and coordinated strategies, preferably supported in some part by industry engagement. We ourselves must be thoughtful not only about how we approach patients, particularly in immunooncology, but also about our interactions with oncologists and surgeons. Strategic planning will include preparations for new programs, restructured training, reliable economic models, and pathways to implementation. New nuclear medicine researchers will be needed to continue to explore cancer biology and develop more effective therapies. Careful planning and reliable assessment are urgently needed, because as a field we are currently moving so quickly that there is a danger the train may get ahead of us. Unless we are prepared on multiple fronts, therapeutic demands in the not-too-distant future may outstrip our capacity to provide service. Nevertheless, the future is bright, and we have much to be optimistic about.

Institute for Advanced Medical Isotopes Planned at TRIUMF, Canada's Particle Accelerator Center

Canadian Prime Minister Justin Trudeau announced on a November 1 visit to TRIUMF (Vancouver) new funding to construct the Institute for Advanced Medical Isotopes (IAMI), a "premier centre for the life sciences that will expand Canada's role in fast-moving advances in nuclear medicine that will improve health and save lives." TRIUMF, which is the nation's leading center for medical isotope research and innovation, celebrated its 50th anniversary in 2018. With support from research and clinical partners BC Cancer and the University of British Columbia, the IAMI will be a state-of-the-art facility for research into next-generation life-saving medical isotopes and radiopharmaceuticals. Located on the TRIUMF campus, it will include an integrated series of laboratories and a TR-24 medical cyclotron, one of the most technologically advanced commercial cyclotrons. In a press release, TRIUMF indicated that IAMI will offer: (1) secure isotope supplies: IAMI will secure a local supply of several important medical isotopes, including ^{99m}Tc, and also enable Canadian access to the global ^{99m}Tc market; (2) next-generation cancer therapies: by developing targeted radionuclide therapies for metastatic cancers, IAMI researchers will contribute to improving health outcomes and will represent Canada in this fast-growing field, as well as improve access to radionuclide therapy markets; (3) accelerated global drug development: IAMI will provide a unique infrastructure for radiotracer production to facilitate early-stage drug development of isotope-based radiotracers; (4) improved health outcomes for Canadians: IAMI will supply additional isotopes to the TRIUMF–University of British Columbia (UBC) neuroimaging program at the Djavad Mowafaghian Centre for Brain Health (Vancouver) to bring the power of personalized medicine to more patients and boost the supply and diversity of important PET isotopes, enabling thousands of PET scans annually; and (5) industry partnerships and investment: IAMI will provide certified infrastructure for isotope production, enabling the development of new diagnostic and therapeutic substances by industry partners, and establish a powerful training platform for young researchers.

"The IAMI is a transformative project that will improve the health of Canadians. Through IAMI, TRIUMF and its partners will advance research into next-generation, life-saving medical isotopes and radiopharmaceuticals. IAMI will provide the facilities necessary to connect bench to bedside and translate scientific breakthroughs into real-world treatments for cancer and other diseases," said Jonathan Bagger, PhD, director of TRIUMF.

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