

Many achievements in support of nuclear medicine are the result of years of coordination, fact finding, collaboration, and evidence gathering. In 2016 SNMMI developed a white paper with recommendations on public standards for compounded sterile radiopharmaceuticals that recommended that the U.S. Pharmacopeia (USP) create a separate general chapter for radiopharmaceutical preparation, compounding, and dispensing. Using elements of the white paper as a basis for discussion, the USP held a stakeholders workshop on radiopharmaceutical compounding, resulting in USP agreement to create the new General Chapter <825> dedicated to radiopharmaceuticals. The chapter, published on June 1, provides uniform minimum standards to provide, in the words of the USP, “a reasonable and rational basis for the protection of patients from unsafe practices.”

Multiple similar efforts to represent nuclear medicine are underway right now at SNMMI, with the pace of new

regulatory and legislative challenges and opportunities matching those of innovations in the field. The resulting achievements do not happen in a vacuum or outside the reach of individual participation—they require the widest representation from the entire spectrum of the nuclear medicine and molecular imaging community. SNMMI members can be involved by joining an SNMMI council; by staying up to date through the SNMMI website (<http://www.snmmi.org/GRNews>); and by working directly with the society on emerging issues that call for grassroots or volunteer response. Some of the most wide-reaching efforts with which SNMMI has been involved have begun with anecdotal reports of local regulatory, legal, or guidance challenges. Members are urged to let the society know about relevant activities in their communities as SNMMI continues to speak out on decision making that will affect the field for years to come.

LETTER TO THE EDITOR

⁶⁸Ga-PSMA Ligand as Potential ^{99m}Tc-DMSA Alternative

To the Newsline Editor: I read with great interest the paper by Lim et al. (1) that was published in the August issue of *JNM Newsline*. The article highlighted the importance of ^{99m}Tc-dimercaptosuccinic acid (^{99m}Tc-DMSA) scans in pyelonephritis and other renal cortical diseases and the implications of current shortages of ^{99m}Tc DMSA in the United States. We have recently published ⁶⁸Ga-prostate-specific membrane antigen (⁶⁸Ga-PSMA) ligand PET/CT images of the kidneys that show a high degree of uptake and excellent distribution of this radiotracer in the renal cortex and demonstrate renal parenchymal defects caused by various sizes of renal cysts (2,3). ⁶⁸Ga-PSMA ligand renal images appear to be superior to those acquired with ^{99m}Tc-DMSA (2,3).

The main limitations of DMSA scanning include the relatively long waiting time after radiotracer injection, long acquisition time, high radiation dose (particularly important in repeated studies in children), and limited spatial resolution with gamma cameras. ⁶⁸Ga has a shorter half-life (68 min) than ^{99m}Tc (6 h). Effective and kidney radiation doses with the ⁶⁸Ga-PSMA ligand appear to be comparable to those with ^{99m}Tc-DMSA, but this should be further studied (4–6). The CT component of PET/CT imaging further increases radiation dose, but CT images may not be needed because non-attenuation-corrected PET also provides good quality images of the kidneys as a result of high renal cortical uptake. This is particularly important when used in pediatric patients (2,3). Waiting time after radiotracer injection and image acquisition time is less with ⁶⁸Ga-PSMA ligand PET (30–60 min and 2–6 min, respectively) than for the DMSA scan (2–3 h and 15–30 min, respectively). PET scanners offer higher efficiency for detecting

gamma photons and higher spatial resolution than gamma cameras (7).

Although the ⁶⁸Ga-PSMA ligand is more expensive than ^{99m}Tc-DMSA and not available at every institute, it would be worthwhile to directly compare PSMA PET to DMSA scanning in renal diseases to better understand whether this PET radiotracer could be used to image the renal cortex and serve as an alternative to DMSA scanning, particularly in countries with shortages of ^{99m}Tc-DMSA. We have recently received institutional approval for a prospective research project for such a comparison in adult patients with pyelonephritis, and the study will begin soon.

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