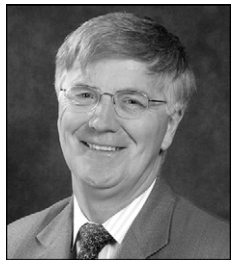
Advocating for PET/CT



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The publication of "Is PET an Endangered Species?"—an article by Richard Black, DO, on AuntMinnie.com—raises a number of interesting observations regarding the challenges facing the nuclear medicine/molecular imaging community. Black's hypothesis is that recent changes to funding have dimmed the prospects of the PET community for more widespread utilization of the technology and for the routine acceptance of its use by those in oncology.

The damage caused by reductions in reimbursement is reflected in the apparent plateauing of utilization data and by a 25%–30% fall in sales of new scanners over the past year. This drop in sales is particularly relevant, because it is only from a robust commercial market that the next generation of innovations in scanner technology will arise. It has particular implications for the introduction of PET/MR and the introduction of new PET radiotracers.

Compounding these problems in reimbursement are broader issues related to the regulations surrounding the introduction of PET tracers, the development of an evidence base that is accepted by our oncology colleagues, and the absence of multicenter trials validating the next generation of indications for FDG—namely, the quantitative evaluation of treatment response and the predictive assay of treatment outcomes.

Black points out that projections for the utilization of PET studies have fallen far short of predictions. It had been anticipated that up to 10 million PET studies per year would be performed by 2007. Recent data suggest that only slightly more than 1 million PET studies will be performed this year, compared with approximately 20 million CT procedures performed for oncologic evaluation.

One of the major problems associated with validation of FDG imaging has been the issue of indication fragmentation, whereby CMS approval for reimbursement is provided on the basis of specific cancer diagnoses rather than the more broadly based biochemical indication of abnormal glucose metabolism in patients with suspected cancer. Although this may appear to be a semantic difference, it is important in that it makes trials validating the effectiveness of the technology—whether for diagnosis of a specific disease or for monitoring treatment response—more complicated and more expensive. This complexity and expense make it very difficult to build up the necessary evidence base to persuade our oncology colleagues of the value of these techniques.

A second problem is developing the necessary evidence to support the integration of PET imaging into the standard diagnostic workup of patients with cancer. There is no doubt from the literature that FDG imaging is a highly effective technique for diagnosing cancer and for characterizing anatomically defined masses. Yet utilization has not increased at levels that were once expected, for reasons that are complex. These undoubtedly relate to reimbursement, to the confidence that oncologists have that PET use improves patient outcomes, and to the perceived complexity of the procedure. An additional element is the rapid change in technology that has occurred over the past few years with the introduction of PET/CT. Although PET/CT offers unique characteristics in diagnosis and anatomical localization, there is a perception in the community that FDG is, therefore, another form of CT contrast agent. This is clearly not true, and the quantitative data supporting FDG monitoring of treatment response to chemotherapy clearly belie this opinion.

SNM is acutely aware of the issues around PET utilization and reimbursement, and members of its Government Relations Committee are working aggressively with representatives of other organizations to address them. The issues of evidence base and confidence in utilization are also being addressed through conversations with those in related organizations, and a publication outlining the best practices in FDG imaging is coming up. One key requirement is to place FDG imaging in appropriate clinical practice guidelines, and it is important at that stage to recognize that the National Coalition for Cancer Research already has guidelines incorporating PET scans. A final area to address is the issue of regulations around indication fragmentation in the introduction of new PET tracers. Attendees at a workshop held by SNM will produce a white paper focusing on these issues that will be published in *The Journal of Nuclear Medicine.* In addition, SNM leadership met with representatives of the Food and Drug Administration to begin concentrating on these questions, and a working group is also discussing issues of FDG quantitative imaging.

In the meantime, we must take every opportunity to adequately address the concerns of our clinical colleagues and—more important—to advocate for PET/CT imaging in a way that benefits our patients and ensures that our funders and Congress are aware of the benefits of this unique form of functional imaging.