Sensitivity of $[^{18}F]$-Fluorodeoxyglucose—Positron Emission Tomography in Patients With Active Myelopathy

To the Editor: We read with considerable interest the recent article by Flanagan et al on the sensitivity of $[^{18}F]$-fluorodeoxyglucose—positron emission tomography (FDG-PET) in the detection of active myelopathy. The authors reported the results of FDG-PET in the context of neoplastic disorders (n=21), neuromyelitis optica optica myelopathy (n=6), and nonsarcoid inflammatory myelopathy of various etiologies (n=24). Spinal cord hypermetabolism was found in 81%, 50%, and 25% of these patients, respectively. Similar results have been described in the context of neoplastic and neuromyelitis optica myelopathies. The relatively low rate of FDG-PET–positive findings among patients with inflammatory myelopathies (spinal cord hypermetabolism in 6 of 24 patients) in the report by Flanagan et al is particularly interesting.

We are carrying out a similar prospective study, focusing only on inflammatory myelitis, with the following inclusion criteria: acute myelitis, brain and spinal cord magnetic resonance imaging (MRI), and spinal cord FDG-PET examination performed within 3 months after symptom onset. Currently, we have included 14 patients with inflammatory myelitis (including 8 with multiple sclerosis). Analysis of the FDG-PET results consisted of a visual analysis of spinal cord FDG metabolism and maximum standardized uptake value analysis. The maximum standardized uptake value was measured at each spinal cord level from C1 to T12. Hypermetabolism was defined as a 20% difference between 2 adjacent spinal cord levels. This 20% threshold was defined comparatively with a healthy control population.

In all our patients, FDG-PET revealed hypermetabolism that was consistent with the clinical levels of myelitis. In 6 of 14 patients, FDG-PET revealed more inflammatory localizations than MRI. In aggregate, 32 lesions were found on FDG-PET compared with 23 on MRI.

Our preliminary results need to be confirmed in a larger population. These results suggest a higher sensitivity of FDG-PET than was described by Flanagan et al. The discordance between our results and those of Flanagan et al may be the consequence of the longer delay between symptom onset and the FDG-PET acquisitions in their study (median, 290 days; range, 27-2987 days) as compared with our study (median, 32 days; range, 1-131 days).

Our preliminary results, together with those of Flanagan et al, justify the realization of larger studies to evaluate the promising role of FDG-PET imaging in the diagnosis, follow-up, and management of acute myelitis.

Xavier Ayrignac, MD
Jessica Orgeval, MD
Denis Mariano-Goulart, MD, PhD
University Hospital of Montpellier
Montpellier, France


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In reply—Sensitivity of $[^{18}F]$-Fluorodeoxyglucose—Positron Emission Tomography in Patients With Active Myelopathy

We thank Dr Ayrignac and colleagues for their interest in our study and their comments. We agree that differing methods for assessing hypermetabolism make it difficult to make direct comparisons of the $[^{18}F]$-fluorodeoxyglucose—positron emission tomography (FDG-PET) findings in our study and the preliminary results they describe. The main finding in our study was that FDG-PET hypermetabolism and greater maximum standardized uptake value were more common in neoplastic than in nonsarcoid inflammatory myelopathies. Regarding the higher frequency of FDG-PET hypermetabolism in inflammatory myelopathies that they report, we agree that differences in timing from myelopathy onset to FDG-PET and perhaps a high frequency of paraneoplastic myelopathy in our study are potential reasons for differences in the results. We look forward to their and other researchers’ work adding to our understanding of the FDG-PET features in myelopathies.

B. Mark Keegan, MD
Eoin P. Flanagan, MBBCh
Mayo Clinic
Rochester, MN

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Clinical Practice Guidelines: Still Miles to Go...

To the Editor: In their article published in the January 2014 issue of Mayo Clinic Proceedings, Feuerstein et al reported that only a relatively small number of the guidelines from interventional subspecialty societies are based on evidence derived from randomized controlled trials. This scenario is not limited to guidelines developed by interventional medicine societies; guidelines developed by other professional organizations are also largely based on low levels of evidence. This factor is largely related to lack of research focused toward bridging gaps in the evidence base. The ability to provide recommendations in the absence of solid evidence should be considered a strength of these guidelines.
because they provide guidance in areas of inadequate evidence. However, caution should be exercised when recommendations are based on low levels of evidence. The problem lies in the multitude of available systems to grade the evidence and the presence of outdated recommendations. The different methods of grading evidence add to the difficulty in interpreting the guidelines. We agree that the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) system not only helps in the assessment of strength of the recommendations but also critiques the robustness of the underlying evidence. The GRADE system will also allow transparent judgments in the guideline development process, thereby minimizing potential conflicts of interests.

Clinical practice guidelines from various professional societies have done a great service not only in patient care by developing practice recommendations but also by identifying gaps in the evidence base for further research. Still, much effort is needed to strengthen the evidence base and streamline the process of guideline development.

Abdur Rahman Khan, MD
Faraz Khan Luni, MD
George Victor Moukarbel, MD
University of Toledo
Toledo, OH


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In reply—Clinical Practice Guidelines: Still Miles to Go…

We thank Khan et al for their interest in our article assessing practice guidelines in interventional medical specialties and strongly agree that the issues with guidelines go beyond just those of the interventional subspecialties. In fact, we have already reported the results of other studies citing the limited evidence among gastroenterology and inflammatory bowel disease guidelines, and others have shown similar results for cardiology, infectious diseases, and liver diseases.

We believe that considerable improvements can be made in the quality of contemporary guidelines, beginning with the makeup and conduct of guideline development committees, in which much of the guidelines’ strengths are rooted. A key aspect of establishing a guideline is the degree of transparency mandated throughout the development process. How the committee deals with potential conflicts of interest, who is chosen to participate in the committee, how the evidence is researched, and how the recommendations are formulated all must be determined before starting the guideline development process. All of these standards are determined by the guideline development committee.

As stated in our article, we agree with Khan et al that the GRADE (Grading of Recommendations, Assessment, Development, and Evaluation) system is an easier system for the reader to understand and has the additional benefit of highlighting areas in need of further research. However, although we agree that the professional societies have done a great service in the development of practice guidelines, when statements based on poor evidence are published, there is a potential for harm. For example, guidelines based only on expert opinion are oftentimes perceived (eg, by insurance companies and in malpractice cases) as an irrefutable standard of care to which clinicians should be held accountable. Instead of relying so heavily on expert opinion guidelines, we suggest, as we have in our previous publications, that a “best practice statement” be used instead of a guideline when quality evidence in not available. A best practice statement would complement the GRADE system, indicating that evidence is lacking and that the recommendations are based on expert opinion. However, it is likely that as research is reported over time, an evidence-based standard of care may be established. Until that time, though, expert opinions should be viewed with circumspection when used as a standard for physicians’ actions (eg, in malpractice cases or in quality assessments).

Ultimately, we commend Khan et al for further highlighting the important work that still needs to be done to improve current practice guidelines.

Joseph D. Feuerstein, MD
Daniel A. Leffler, MD, MS
Adam S. Cheifetz, MD
Beth Israel Deaconess Medical Center
Boston, MA