obstetricians. Undertaking preclinical studies on large pregnant animals, such as sheep, would then be appropriate to consolidate the combined methodologies and establish firm radiation dose facts to enable future studies on humans.

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Prognostic Implications of Imaging-Based Bone Marrow Assessment in Lymphoma: ^{18}F-FDG PET, MR Imaging, or ^{18}F-FDG PET/MR Imaging?

TO THE EDITOR: We read with interest the recent article by Berthet et al. (*1*), who investigated the prognostic implications of ^{18}F-FDG PET–based bone marrow assessment in diffuse large B-cell lymphoma (DLBCL). Their well-designed retrospective study included 133 patients with newly diagnosed DLBCL, of whom 32 were positive for bone marrow involvement according to ^{18}F-FDG PET whereas only 8 were positive according to bone marrow biopsy. In a multivariate analysis, Berthet et al. showed that only the International Prognostic Index (IPI) and the ^{18}F-FDG PET bone marrow status were independent predictors of progression-free survival ($P = 0.005$ and $P = 0.02$, respectively), whereas only the IPI remained an independent predictor of overall survival ($P = 0.004$). Almost simultaneously, another study on the same subject was published by Khan et al. (*2*). In their retrospective study that included 130 patients with newly diagnosed DLBCL, 35 were judged to have marrow involvement; of these, 33 were identified by ^{18}F-FDG PET and 14 by bone marrow biopsy. Cases with bone marrow deposits identified by ^{18}F-FDG PET but not by biopsy had progression-free and overall survival similar to Ann Arbor stage IV disease without involved bone marrow (*2*). Both studies suggest that ^{18}F-FDG PET–based bone marrow assessment in newly diagnosed DLBCL may have prognostic implications and that the importance of ^{18}F-FDG PET bone marrow status may overshadow that of the bone marrow biopsy result in this context (*1,2*).

Although ^{18}F-FDG PET is a powerful method for evaluation of the bone marrow, it is a pity that neither Berthet et al. (*1*) nor Khan et al. (*2*) make any mention of the role of MR imaging in this setting. Back in 1997, Tsunoda et al. (*3*) had already reported on the prognostic value of bone marrow MR imaging in lymphoma. In their study, Tsunoda et al. retrospectively investigated a mixed population consisting of 56 patients with newly diagnosed low-, intermediate-, and high-grade non-Hodgkin lymphoma ($n = 48$) and Hodgkin lymphoma ($n = 8$). At the time of diagnosis, all patients underwent masked bone marrow biopsy of the posterior iliac crest and MR imaging of the femoral bone marrow at 1.5 T. The findings of the biopsy were negative in 39 patients, of whom 12 had positive results on MR imaging. Patients were followed for 1–58 mo after the MR imaging examination, with a median of 17 mo. Interestingly, patients with a positive MR imaging result but a negative biopsy result had a significantly shorter overall survival than did those for whom both MR imaging and biopsy were negative ($P = 0.016$). Tsunoda et al. concluded that abnormal MR imaging findings for the femoral bone marrow are associated with a significantly poorer survival in patients with lymphoma, regardless of histologic findings in the bone marrow. Since 1997, MR imaging has made a giant leap forward; nowadays, a high-quality MR imaging examination of the bone marrow in the entire body (i.e., from cranial vertex to toes) can be routinely obtained in less than half an hour. Recent data have shown that the sensitivity of whole-body MR imaging for the detection of lymphomatous bone marrow involvement equals that of ^{18}F-FDG PET (*4*). Even more interestingly, preliminary data from our ongoing prospective study on the value of whole-body MR imaging in DLBCL patients with a negative masked bone marrow biopsy show that disease relapse or progression and death occur more frequently if whole-body bone marrow MR imaging findings are positive. Thus, although more prospective research is warranted and a comparison with established prognostic stratification models such as the IPI should be done, both older and more recent data indicate that bone marrow MR imaging findings may have prognostic implications in lymphoma, independently of (masked) bone marrow biopsy results.

In conclusion, both ^{18}F-FDG PET and MR imaging play a major clinical role in the evaluation of bone marrow diseases, including lymphomatous bone marrow involvement. Given this background information, one may wonder which of the two should be used as a noninvasive bone marrow biomarker of prognosis in lymphoma. ^{18}F-FDG PET/MR imaging will both answer this question and relieve us from the difficult decision of choosing between them.

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REPLY: We thank Adams et al. for their comments on our article (*1*). Their recent paper cited in their letter provides interesting results about the comparable performance of whole-body MR imaging and ^{18}F-FDG PET/CT for detection of bone marrow involvement in a mixed population of patients with newly diagnosed low-, intermediate-, and high-grade lymphoma (*2*). We agree with Adams et al. that the potential role of whole-body MR imaging for evaluation of lymphomatous bone marrow involvement in comparison or in association with ^{18}F-FDG PET/CT needs to be further explored.

However, ^{18}F-FDG PET/CT is now a standard procedure for initial staging and response assessment in patients with lymphoma, whereas whole-body MR imaging is still being evaluated for this indication (*3,4*). Under this current situation, our study was designed to answer a simple pragmatic question: in patients with newly diagnosed diffuse large B-cell lymphoma, is it still worthwhile to systematically perform a masked bone marrow biopsy when ^{18}F-FDG PET/CT, which is routinely performed for initial staging, has the potential to evaluate bone marrow status?

It seems that Khan et al. reached the same conclusions as we do (*1,5*). ^{18}F-FDG PET/CT provides better diagnostic performance regarding bone marrow involvement when compared with masked unilateral iliac crest bone marrow biopsy. Moreover, bone marrow involvement according to ^{18}F-FDG PET/CT yields a better prognostic stratification since patients with a negative result on bone marrow biopsy and a positive result on ^{18}F-FDG PET/CT for bone marrow involvement have a prognosis similar to that of patients with a positive bone marrow biopsy.

In this setting, the association of whole-body MR imaging with ^{18}F-FDG PET/CT could increase the diagnostic performance of noninvasive bone marrow status, particularly when PET/CT alone shows limited performance, such as in low-grade lymphomas and in diffuse or discordant bone marrow involvement (*6*). Thus, according to the diagnostic performance of both modalities, and to the lack of radiation exposure from MR imaging when compared with CT, we agree with Adams et al. that PET/MR imaging, despite its slow spread into clinical routine thus far, may evolve as an alternative for staging of lymphoma patients, including bone marrow status.

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Should Grade of Tracer Uptake on Somatostatin Receptor–Targeted Imaging Be the Major Determinant and Break the Barrier of Histopathologic Criteria for Determining the Suitability of Peptide Receptor Radionuclide Therapy?

TO THE EDITOR: The recently published joint practical guidance of the International Atomic Energy Agency, European Association of Nuclear Medicine, and Society of Nuclear Medicine and Molecular Imaging on peptide receptor radionuclide therapy (PRRT) in neuroendocrine tumors (*1*) is a nice conglomeration of data based on experience gained over the years by different centers across the world. In a systematic manner, the document has addressed the practical clinical issues with regard to important decision-making steps. PRRT has recently gained significant impetus among the nuclear medicine fraternity; a dramatic symptomatic response with better health-related quality of life has been one of the most gratifying experiences of the treating physicians in this domain. In the routine setting, it is not uncommon to experience patients, who have stable disease either radiologically or even biochemically, themselves volunteering for the subsequent cycles because of symptomatic improvement.

A prescribed indication for deciding on PRRT as an option has been grade 1 or 2 neuroendocrine tumor (corresponding to a low and intermediate grade, respectively, according to the recent 2010 classification of the World Health Organization). Histologically, grade 1 tumor corresponds to "<2 mitoses/10 hpf AND