study included 215 ^{18}F-FDG PET/CT tests from 207 patients with biopsy-proven sarcoidosis and clinical suspicion for CS between July 2014 and December 2015, the largest patient cohort to undergo CS ^{18}F-FDG PET/CT so far. On the basis of diet preparation protocol, we categorized the patients into 2 groups. Group 1 patients had a 24-h or less pre–^{18}F-FDG PET/CT HFHPVLC diet, whereas group 2 patients had a 72-h HFHPVLC diet before ^{18}F-FDG PET/CT. All patients had a HFHPVLC breakfast 4 h before scheduled ^{18}F-FDG PET/CT. We found that the 72-h HFHPVLC diet protocol achieved complete suppression of physiologic myocardial ^{18}F-FDG uptake in 86.7% (167/193) of patients, with only 3.6% (7/193) of patients with failed suppression and indeterminate for CS. In contrast, only 50% (6/12) of patients in group 1 had complete suppression of myocardial ^{18}F-FDG uptake and were negative for CS, and 41.7% of patients (5/12) had failed suppression and indeterminate for CS. The high incidence of failed suppression in the 24-h HFHPVLC diet protocol is in keeping with the authors' statement that "nonspecific myocardial uptake may be observed in up to 20% of patients despite various dietary preparations." Because our data showed that the 72-h HFHPVLC diet protocol surpassed the 24-h diet preparation approach, with high patient compliance and physician stratifications, we would recommend and encourage the authors and other investigators to verify this simple and straightforward protocol in their practices.

As for interpretation for cardiac PET, the authors prefer to have both rest myocardial perfusion study and cardiac ^{18}F-FDG PET. We agree that a concurrent rest myocardial perfusion study can somewhat increase diagnosis confidence in CS (*3*). However, decreased perfusion at rest is not specific nor sensitive for CS diagnosis; many CS can have normal or even increased perfusion. Our experience also showed that, with optimal suppression of physiologic myocardial ^{18}F-FDG uptake, the rest myocardial perfusion study or reorientation/reconstruction of cardiac ^{18}F-FDG PET/CT images might not be needed (*4,5*). The authors recommended interpretation of concurrent myocardial perfusion and ^{18}F-FDG PET images mainly based on the data from Brigham and Women's Hospital, which included 118 patients over a 5-y period who underwent <24-h HFHPVLC diet followed by a fast of at least 3 h before ^{18}F-FDG PET and ^{82}Rb myocardial perfusion PET (*6*). As we commented about their data before (*2*), the diffuse myocardial ^{18}F-FDG uptake that was defined as normal perfusion was probably due to failed suppression, thus indeterminate for CS. The focal on diffuse pattern of myocardial ^{18}F-FDG uptake, which was interpreted by the Brigham and Women's Hospital group as areas of inability to suppress ^{18}F-FDG from normal myocardium versus diffuse inflammation, was instead categorized into abnormal metabolism and PET-positive. This description actually reflected the nature of indeterminate for CS in this focal on diffuse pattern. We think the focal increased tracer uptake in the focal on diffuse pattern is mainly due to physiologic papillary muscular uptake, rather than CS. Thus the focal on diffuse pattern is probably due to suboptimal suppression and should be counted as diffuse and nondiagnostic for CS. In our study (*2*), all the patients underwent the same ^{18}F-FDG PET/CT imaging protocol on the same scanner with a time span of 1.5 y. We classified cardiac ^{18}F-FDG uptake as none and ring-like diffuse at base (negative for CS); focal (positive for CS); and diffuse (indeterminate for CS). We found that this classification renders CS ^{18}F-FDG PET/CT interpretation very straightforward and easy to follow, with high interobserver agreement among senior radiology residents and radiology and nuclear medicine attending physicians. In our study, all the positive CS had concordant cardiac MRI findings wherever MRI was available, and both positive and negative CS had consistent results on available follow-up ^{18}F-FDG PET/CT scans. Furthermore, the indeterminate rate (including both focal on diffuse and diffuse patterns) is very low in the 72-h HFHPVLC diet group. On a different note, we want to echo the authors' opinion that, given the high incidence of coexisting thoracic and extrathoracic sarcoidosis, the field of view of ^{18}F-FDG PET/CT should be from the skull base to thigh, or at least include both chest and abdominal organs to better evaluate the extent of sarcoidosis disease (*7*).

We appreciate the joint SNMMI–ASNC expert panel's comprehensive review. Nonetheless, imaging of CS remains challenging. Long-term prospective multicenter clinical trials are required to further validate the optimal PET imaging protocol.

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Published online Nov. 9, 2018.
DOI: 10.2967/jnumed.118.221549

Reply: Role of ^{18}F-FDG PET/CT in Cardiac Sarcoid Detection and Therapy Monitoring: Addition to the Expert Consensus

We thank Dr. Lu and Dr. Sweiss for their comments on the "Joint SNMMI–ASNC Expert Consensus Document on the Role of ^{18}F-FDG PET/CT in Cardiac Sarcoid Detection and Therapy Monitoring" (*1*). In their letter to the editor (*2*), the authors describe a 72-h high-fat, high-protein, very low-carbohydrate (HFHPVLC) diet (*3*) for patient preparation before ^{18}F-FDG PET/CT for cardiac sarcoidosis and recommend that others verify what they consider to be a simple and straightforward protocol. They cite their experience and publication that included 12 scans with a 24-h or less HFHPVLC dietary preparation and 193 scans with a 72-h

HFHPVLC diet before the ^{18}F-FDG PET/CT. They reported a 41.7% (5/12) rate of failed myocardial suppression with the shorter HFHPVLC dietary preparation, and only a 3.6% (7/193) rate of failed suppression with the 72-h dietary preparation.

Although we appreciate Dr. Lu's and Dr. Sweiss' suggestion that long-term prospective multicenter clinical trials are required to further validate the optimal patient preparation for ^{18}F-FDG PET for cardiac sarcoidosis (CS), we respectfully disagree that their study provides sufficient data to recommend a 72-h HFHPVLC diet. The biggest issue with their study is that the comparison group included only 12 patients and that specific details on dietary preparation for these patients are uncertain. Such details are important, since in contrast to the study by Dr. Lu and colleagues, other previously published studies using the shorter high-fat, low-carbohydrate diets with or without prolonged fasting reported a substantially higher rate of successful myocardial suppression in the range of 87% to 93% (*4*). The only other previously published study to use a 2-d high-fat, low-carbohydrate diet with a 12- to 14-h fast reported a myocardial suppression rate of 76%, in contrast to the 96.4% reported by Lu and colleagues for their 72-h dietary preparation. In our experience, compliance with the preparation recommended by the joint Society of Nuclear Medicine and Molecular Imaging (SNMMI)–American Society of Nuclear Cardiology (ASNC) expert consensus document (*1*) is realistic, practical, and achievable and yields an approximate 90% success rate.

We would also like to point out that the diet recommend by Lu et al. is not "simple and straightforward." In our own experience, and that of others, there is a high rate of noncompliance with more prolonged high-fat, low-carbohydrate (HFLC) dietary preparations, and many patients report an aversion to consuming HFLC meals for even 24 h. In our practice, we also noted a high rate of noncompliance with dietary preparations that required a special breakfast, since patients often travel long distances to undergo their ^{18}F-FDG PET/CT study at our institutions and present directly to their PET study. They indicated challenges in having to stop for a special meal at a specific time in the morning.

Regarding the interpretation of cardiac PET images, Dr. Lu and Dr. Sweiss point out that a concurrent rest myocardial perfusion study can somewhat increase the diagnostic certainty of CS but also that with optimal suppression of physiologic myocardial ^{18}F-FDG uptake, the rest myocardial perfusion study or reorientation/reconstruction of cardiac ^{18}F-FDG PET/CT images might not be needed. Again, we respectfully disagree with these points. First, the combination of the resting myocardial perfusion and ^{18}F-FDG images provides important information regarding the likelihood of CS, and can provide more specificity with regards to the pattern of disease that a patient may have (e.g., degree of active inflammation vs. possible scar) (*4,5*). Second, isolated lateral wall ^{18}F-FDG uptake without perfusion abnormalities is likely a nonspecific finding, whereas lateral wall ^{18}F-FDG uptake with a perfusion abnormality is consistent with CS in the appropriate clinical setting. Therefore, the perfusion image can be very helpful in adjudicating isolated lateral wall ^{18}F-FDG uptake. Third, treated CS may demonstrate improvements in both perfusion and ^{18}F-FDG abnormalities. Fourth, the combination of myocardial perfusion and ^{18}F-FDG images help to define the prognostic spectrum of CS, with the combination of abnormal myocardial perfusion and abnormal ^{18}F-FDG uptake conferring a 4-fold increase in the annual rate of ventricular tachycardia or death compared with normal imaging results (*6*). Lastly, the reconstruction and reorientation of both sets of images are necessary to display perfusion and ^{18}F-FDG images simultaneously and integrate their interpretation. Another benefit to the traditional nuclear cardiology display is the ability to assess the gated PET or SPECT myocardial perfusion images for left ventricular volume, wall motion, and systolic function. Therefore, our recommendation is to acquire, reconstruct, and reorient and interpret both sets of images using the traditional nuclear cardiology display, in addition to viewing the images on the hybrid PET/CT display.

In summary, we appreciate the interest in our Joint SNMMI–ASNC expert consensus document but stand by its conclusions. We all agree that large prospective studies may further inform the optimal patient preparation and interpretation for ^{18}F-FDG PET for CS.

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DOI: 10.2967/jnumed.118.221879