to metabolism. Since the approaches of Krivokapich et al. (*4*) and of Hutchins et al. (*19*) for measuring myocardial perfusion with ^{13}N-ammonia use kinetic data from the first several minutes after administration of tracers (contrary to what is used for "qualitative" imaging), these approaches also require tomographic units that are capable of faithfully recording the high count rates achieved (more difficult on tomographs with bismuth germanate detectors than on those with cesium fluoride detectors such as the scanner used in our study), and issues of randoms correction, deadtime, and spillover of radioactivity from blood to myocardium will be similar for ^{15}O-water as for ^{13}N-ammonia.

Finally, Dr. Buxton is concerned about the coefficient of variation in regional perfusion estimates made with ^{15}O-water. We believe these are largely due to the large regions of interest that we use for assessing perfusion. Smaller values have been published by Araujo et al. (*15*) and by Iida et al. (*16*) in results of their studies measuring regional myocardial perfusion in humans with PET and ^{15}O-water. We observe a coefficient of variation for ^{15}O-water similar to that for the extracted flow tracer, ^{62}Cu-PTSM (*18*). Although Dr. Buxton cites data regarding the coefficient of variation for studies with ^{13}N-ammonia, these data have not been published in the literature and we obviously cannot comment on personal communications.

In summary we believe that, at the present time, estimation of myocardial perfusion with ^{15}O-water is the most accurate and well-validated approach for measuring myocardial perfusion in experimental animals and human subjects. Although estimation of regional myocardial perfusion with ^{15}O-water is technically demanding and requires meticulous data collection and analysis as well as tomographs capable of faithfully recording high-count rates with high temporal resolution, we stand by the quantitative accuracy of the approach and believe that the conclusion drawn from our study, i.e., that older subjects exhibit a diminution in the hyperemic response to the standard dose of dipyridamole, is valid.

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Marrow Scintigraphic Changes After Hormonal Therapy

TO THE EDITOR: We have read with interest the paper of Berna et al. (*1*) in which they reported the marrow scintigraphic changes that they observed after hormonal therapy using ^{99m}Tc-antigranulocyte monoclonal antibody BW250/183 (AGMab) in two patients with bone metastases from prostate carcinoma. In this letter, we would like to report on our previously published experience with marrow scintigraphy in such patients (n = 11) using ^{99m}Tc-labeled nano-sized human serum albumin colloids in comparison to conventional bone scans using phosphonates (*2,3*).

In six patients, bone scans and marrow scintigraphy yielded identical findings (one status quo, two regressions, three progressions of disease). On the other hand, in five patients, marrow scintigraphy and bone scan findings diverged or disagreed. In these patients, and with regard to the ultimate evolution of the disease, marrow scintigraphy could be deemed superior to bone scans. Indeed, marrow scintigraphy showed clear progression of the metastatic process in two patients (who finally died of their cancers), whereas the bone scans remained unchanged. In two other patients, bone scans suggested disease regression but with unchanged underlying marrow scintigraphic lesions and with later

worsening of the disease. In the last patient, marrow scintigraphy suggested the complete healing of the medullary metastases despite a still pathological (although improved) bone scan but with later worsening of the disease. Our patients' results differ thus from those of Berna et al., except for our last patient. We do not wish to discuss yet again the differences between colloids, leukocytes or antibodies for imaging bone marrow (*4,5*), but we definitely conclude that in such patients with extensive or multifocal metastatic disease from prostate or breast carcinomas (data to be published), marrow scintigraphy using nano-sized colloids represents the simplest and least expensive way—not excluding its possible superiority to bone scanning—to evaluate these patients' responses to treatment.

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The Localization of Indium-111-Leukocytes, Gallium-67-Polyclonal IgG and Other Radioactive Agents in Acute Focal Inflammatory Lesions

TO THE EDITOR: With great interest, we have read the results of the excellently designed animal study presented by McAfee et al. in a recent issue in which eight different radiotracers for localizing experimental abscesses in dogs were investigated and the local uptake ratio was calculated (*1*).

The final results of the study demonstrated the superior quality of ^{111}In-oxine-labeled granulocytes especially in comparison to the other investigated radiopharmaceuticals. A comparison with monoclonal mouse antibodies directed against the human granulocyte epitope NCA-95, labeled with ^{99m}Tc (Mab BW 250/183, Granulozyt^{R}, Behringwerke AG) or ^{123}I (Mab 47, Granuloszint^{R}, Mallinckrodt), was impossible due to species-specificity.

At our institutions, like in many others in Europe, ^{99m}Tc-labeled Mab BW 250/183 is frequently used for clinical applications concerning infection and inflammation. The simple in-vivo use, a ^{99m}Tc label, the logistic advantages and the lower radiation burden are important facts that emphasize this modality from a clinical point of view. The sensitivity, specificity and accuracy are similar to the reported data from studies with ^{111}In-oxine granulocytes (*2–9*). Those studies include infections of the musculoskeletal system.

In regard to the limitation in transferring data from animal experiments to humans and the clinical results of anti-NCA-95, we cannot agree with the general conclusion of the authors that ^{111}In-granulocytes are superior to all other agents for localization of infectious lesions and that other options only play the part of a substitute. In our opinion, isolation and labeling procedures become more unpopular, because they are time-consuming procedures and there is the risk of infection from the AIDS virus.

Indium-111-oxine-labeled granulocytes have been the gold standard for many years, but the development of new monoclonals has become successful and seems to be as effective in clinical routine. An important future task will be to list the different available radiopharmaceuticals and to evaluate their various indications for localizing foci of infections.

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REPLY: We thank Dr. Sciuk for his interest and kind remarks about our manuscript. Many of us in the U.S. have been following the interesting literature on the Behringwerke AG ^{99m}Tc-monoclonal antibody (Mab) BW 250/183 originally developed by Bosslet et al. (*1*). Although other anti-granulocyte Mabs are under development in Europe and in the U.S., none are available