

Reply

This is in response to the letter to the Editor from D. P. Shreiner (1).

The subject of our article (2) was to demonstrate that the upright view, when used in hepatic scans, improves resolution. One assumes that if resolution is improved, indeed, lesion detection would be improved. The findings of improved resolution in scans of those patients who are able to stand have been observed at our institution, as well as at others, for several years, but have not previously been analyzed.

There was a figure demonstrating computer analysis of a scan with hepatic metastases. When a specific lesion was analyzed, it was delineated more clearly. For the purposes of our article, focal defects were chosen for analysis, since they were easiest to identify.

We agree that the scans suffer in reproduction, particularly when they reach the third generation. We agree with Dr. Shreiner that we did not attempt, in our article, to conduct a large-scale study of patients with various hepatic abnormalities, since autopsy or biopsy proof is, at best, difficult to come by. To date, there have been very few studies of hepatic metastases that are of acceptable quality. One of the best and most recent studies was published recently in this Journal by Drum, et al. (3); however, we were not prepared to enter into such an extensive effort at this time. We hope that Dr. Shreiner will try utilizing such a simple and inexpensive maneuver to see the effect, and perhaps, for the benefit of his patients, as well.

FRED A. METTLER, JR.
Cancer Research and Treatment Center
Albuquerque, New Mexico

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Improvement in Visualization of Hepatic Lesions with Upright Views

In their Technical Note (1), Mettler et al. state: "Comparison of gray-scale ultrasonography with routine radionuclide hepatic scans indicates the superiority of ultrasound (12). This may not be true when standing radionuclide scans are routinely performed."

Our study (2), to which Mettler et al. refer, indeed stated that in areas accessible to the transducer sonography was superior to radionuclide imaging for the resolution of small, deep lesions. We defined this superiority strictly in terms of such resolution and not in overall diagnostic ability. We reached our conclusions in the study, as in our routine clinical work, by examining all patients able to stand in both the supine and upright positions.

ZACHARY D. GROSSMAN, M.D.
BRIAN W. WISTOW, M.D.
State University of New York
Upstate Medical Center
Syracuse, New York

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Myocardial Imaging with Tc-99m Pyrophosphate in Patients with Adriamycin for Neoplasia

I have read the article of Chacko et al. (1) with great interest. It is encouraging to note that serious effort is being made to use myocardial imaging techniques to understand cardiac disorders other than coronary-artery disease. Their association of Tc-99m pyrophosphate activity in the cardiac region with adriamycin-induced cardiac damage however, is a bit premature. The problem of cardiotoxicity as a long-term complication of adriamycin therapy is well known. Several diagnostic procedures that promise to be sensitive for early detection of cardiac toxicity—such as systolic time-interval measurement (2) or echography (3)—may also be too sensitive, and result in unnecessary withdrawal of a beneficial drug from the therapeutic regimen of a cancer patient (4). The possibility that prior radiotherapy to the chest may be an additional factor in causing cardiac uptake of Tc-99m pyrophosphate must be considered also. We have reported a high incidence of cardiac uptake of Tc-99m pyrophosphate in patients with prior history of therapeutic chest irradiation as compared with a control group of unirradiated patients (5). The majority of their patients who show cardiac uptake of Tc-99m pyrophosphate also had prior cardiac irradiation. In an effort to relate cardiac uptake to adriamycin administration alone, an analysis of a patient group that has had no chest irradiation would be very interesting. Comparison with sensitive techniques such as serial EKG, systolic time interval, echocardiography, based on experimental confirmation, will help explain the dynamic processes encountered in chemotherapy.

JAGMEET S. SOIN
Milwaukee County Medical Complex
Milwaukee, Wisconsin

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Reply

In our article (1) we described our technique of using Tc-99m pyrophosphate in patients who stood a risk of de-