methods for single-photon tomography. We were interested in whether and how these methods affected the ability to quantify the size of myocardial infarction in patients from Tc-99m PPi uptake. We suggested caution in extrapolating our results beyond the scope of the study (see the last paragraph of the paper), and we would like to emphasize that point again.

Dr. Moore's observations about the iterative least-squares method are correct. At the time when we performed our study we limited ourselves to a single iterative method and two commonly used one-step correction techniques. Newer iterative attenuation-correction methods may prove superior to those used in our study; thus, additional comparisons are suggested, and we have proposed this to Dr. Moore in personal correspondence.

As Dr. Vergara pointed out, the methods of image enhancement and restoration are quite different from those of image analysis. To address the basic problem of image restoration we used conventional techniques to reconstruct the radionuclide activity distribution and compensate for attenuation loss. The SSE criterion, while widely used as a 'goodness of reconstruction' measure, does not reflect image geometry. Since our goal was to assess the impact of the reconstruction methods on lesion sizing, we considered the simple geometric area measure to be more appropriate than SSE for this study.

We would welcome further comments on these points.

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The Uncertain Specific Gamma-Ray Constant for Tl-201

A recent review of the information supplied by manufacturers in radiopharmaceutical package inserts revealed that the value listed as the specific gamma-ray constant for Tl-201 had been changed by an order of magnitude in just a few years. A November, 1977, package insert gave a value of 0.47 R cm^2/mCi-hr, whereas that in January, 1982, was given as 4.7 R cm^2/mCi-hr. It was discovered that the *External Radiation* data in the package insert is specified by the FDA, which recently (1980) changed the constant to the latter value. This new value includes contributions from the 10-keV L-shell x rays (*1*), whereas the original value did not. Because of the abundance (46%) of these photons and the high absorption coefficient at this energy, the inclusion of these photons has a disproportionate effect on the value for this constant. Both values had been provided to the FDA by the Radiopharmaceutical Dose Information Center at Oak Ridge.

The specific gamma-ray constant Γ_δ—better called the exposure rate constant (*2*) or, still better, the air kerma rate constant (*3*)—is defined for photons greater than some specified energy δ. The value chosen for δ depends on the application. This constant is commonly used for health-physics calculations such as in the calibration of ionization chambers or estimation of exposure rate from a radioactive patient. As almost all of the 10-keV x rays will be absorbed locally in the vial or patient, there seems to be no justification for including these photons as external radiation. It has been suggested that for health-physics application a choice of 20-keV for δ, the cutoff energy, would be more appropriate (*4*). Furthermore, the resultant first half-value layer calculated when using the 10-keV x rays is 0.006 mm Pb, which does not give a true indication of the shielding required—although it must be admitted that other attenuation values are given in the insert.

For calculations of internal dosimetry, low-energy photons are classified as penetrating or nonpenetrating, depending on the energy of the radiation and the dimensions of the volume (*5*). Except for very small volumes, the MIRD convention is to classify photons of less than 11.3 keV as nonpenetrating, since over 95% of the energy is absorbed within 1 cm of the source in soft tissue (*6*). It would be more appropriate to choose a δ of 11.3 keV for this application.

In view of the present lack of standardization, however, it would be helpful if the information contained in the package insert clearly explained the assumptions used.

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