



FIGURE 1
Relationship between survival from time of PET study and histologic type of primary lung cancer. (○) Large cell carcinoma; (●) squamous cell carcinoma; (×) small cell carcinoma; (△) adenocarcinoma. The correlation coefficient was = 0.831 ($p < 0.001$); intercept = -25.5; slope = 111.2.

Fig. 1). This suggested that the high accumulation of [^{11}C] methionine in the tumor seemed to be derived from the rapid tumor growth and represented the malignant nature of the tumor. Higashi et al. (1) reported in their gallium-67 (^{67}Ga) scan study of 74 patients that the greater the (^{67}Ga) accumulation in lung cancer, the shorter the host survival. Cheguillaume et al. (2) showed the correlation between the uptake of cobalt-57 bleomycin and the survival of 22 cases of lung cancer. Further investigation and a larger study group may verify the trends suggested by our preliminary work.

References

1. Higashi T, Nakamura K, Suzuki S, et al. Ga-67 scan as a prognostic indicator in primary lung carcinoma. *Clin Nucl Med* 1982; 7:553-557.
2. Cheguillaume J, Minier J, Tuchais C, et al. Relation entre le temps de doublement des tumeurs pulmonaires et la fixation de la bléomycine marquée. *Rep Franc Mal Resp* 1975; 3(suppl 1):221-226.

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Captopril Test in Screening Hypertensive Patients

TO THE EDITOR: Perhaps Cuocolo et al. (1) do not have to contend with Italian versions of DRGs, cutthroat/cut-rate/low bid HMOs, or patients with marginal medical financial reserves. Nuclear medicine physicians in the United States, however, must consider these factors and be ever vigilant to minimize costs and thus maintain a competitive edge with other imaging methods. This has become even more difficult as advancing nuclear medicine technology and, *pari passu*, better trained technologists have forced up costs.

A screening test must be sensitive, rapid, and relatively inexpensive. As proposed by Cuocolo et al., the Captopril/

DTPA renogram meets only two of these criteria. At my facility, a renogram costs a total of \$200.00, including the hospital charge, isotope, and the physician's fee. As suggested in the article, two renograms (one without and one with Captopril) would result in a charge of \$400.00. This is beyond the pale for a "screening test".

I would like to propose a cost-saving measure: reverse the order of performance of the renograms; that is, do the Captopril renogram first. If this is abnormal (e.g., low GFR, asymmetric function, etc. . .), then the "baseline" study can be performed, if desired. If the Captopril renogram is normal with symmetric function (this would include most patients since essential hypertension is much more prevalent than renovascular hypertension), then the baseline study would not have to be done. Reversing the sequence of tests thus would save a considerable amount of money and make use of the Captopril/renogram as a screening tool much more likely by the clinicians.

Reference

1. Cuocolo A, Esposito S, Volpe M, et al. Renal artery stenosis detection by combined Gates' technique and Captopril test in hypertensive patients. *J Nucl Med* 1989; 30:51-56.

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REPLY: We thank Doctor Daly for his interest in our work. We would like to point out that our paper (1) was primarily a scientific study, and we made no pretense of evaluating the cost-effectiveness of the test. However, we concur that a screening test must be sensitive, rapid, and relatively inexpensive. When the radionuclide renography was first introduced into clinical use, it appeared to be an ideal method for evaluating patients with suspected renovascular disease (2). Subsequent reports have shown that the true-positive rate for the detection of renovascular disease with radionuclide renography is 80-90% (3). This true positive rate, which implies that ~10% of patients with renovascular hypertension will be missed by this test as false-negative results, is probably acceptable in clinical practice (4). But the false-positive rate for the test (~10%) is not acceptable (5).

It has been recently demonstrated that the introduction of Captopril scintigraphy will greatly improve the efficacy of the radionuclide renography in the differential diagnosis of renovascular hypertension (1,6). The observation made in our study (1) confirms previous reports in both experimental and human models (6,7) that angiotensin converting enzyme inhibition with captopril is capable of altering renal function assessed by radionuclide studies thus improving the diagnostic accuracy of these studies in the evaluation of patients with suspected renovascular hypertension. The potential for using Captopril, therefore, would be a marked improvement in the use of nuclear medicine techniques for screening through increased specificity. This benefit was clearly analyzed by Blafox and Freeman (4). Finally, Doctor Daly's proposal to reverse the sequence of the renograms has merit as a good