THE AUTHORS' REPLY

This second letter to the editor concerning radionuclide venography (RNV) is further evidence of the widespread interest in the diagnosis and eventual treatment of deep venous thrombosis (DVT).

We have no experience with thermography. However, any test that adds additional information for the diagnosis of DVT in patients is welcomed.

As one moves further away from directly imaging the venous system itself, the diagnostic accuracy diminishes. Our experience with Doppler ultrasonography documents this.

We would raise the question as to whether arterial disease, decreasing perfusion to one of the lower extremities, would make the other appear falsely "hot." This theoretical consideration should be pursued.

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LUNG RETENTION OF ^{99m}Tc-SULFUR COLLOID

The discussion in the *Journal* (*1,2*) about the retention of ^{99m}Tc-sulfur colloid in the lungs and about gel chromatography as an analytical tool for ^{99m}Tc radiopharmaceuticals (*3*) has prompted us to add a few observations made during a comparative study of most of the commercially available ^{99m}Tc-liver colloid preparation kits (*4*).

We used the technique of Persson and Strand (*5*). A Sephadex G-25 column was scanned using a chromatogram scanner after developing a 30-cm column with 15 ml of 0.9% NaCl solution. We noticed a great difference in the behavior of different ^{99m}Tc-sulfur colloid products as can be seen from Table 1. Mean values and standard deviations of four determinations are given. Each product was tested with two different ^{99m}Tc generators. Pertechnetate will appear at 5–10 cm and only small amounts were registered with preparation C.

Stannous chloride-reduced-technetium is bound at the top of the column and can, as the technetium bound at 0 cm from the sulfur colloid, only be removed after treatment with hydrogen peroxide and ammonia.

All preparations studied were based on the thiosulphate/hydrochloric acid systems. Preparations A, B, and C contained gelatin as a stabilizer. Preparation D contained Haemacell®, preparation C contained perrhenate, and preparation A contained EDTA.

Table 1 also gives the results of filtration through micropore filters. Filtration through Nuclepore® filters (1 micron) and Millipore® filters (8 microns) showed that Millipore filters also have the ability to bind ^{99m}Tc from ^{99m}Tc-sulfur colloids. There is close correlation between the percentage bound to Sephadex columns and to Millipore filters. Nuclepore filters (8 microns) were not available to us but 5-micron filters gave results as expected from 1-micron filters and microscopy of the colloids.

From these experiments we draw the conclusion that ^{99m}Tc is bound with different strength in the different types of preparations and that this might well be of importance when discussing lung uptake of ^{99m}Tc from ^{99m}Tc-sulfur colloids. We find that our experiments might support the idea that under some in vivo conditions, ^{99m}Tc might be transferred from colloids to particles that subsequently are taken up in the lungs or otherwise bound to lung tissue.

Our experiments have shown that different types of ^{99m}Tc-sulfur colloids do have different physicochemical properties although they are based on the

TABLE 1. DISTRIBUTION OF ^{99m}Tc-SULFUR COLLOIDS ON SEPHADEX COLUMNS AND ON MICROPORE FILTERS

^{99m}Tc-sulfur colloid preparation	Distribution on Sephadex G-25 column						Percent remaining on filter					
	0 cm		Percent	30 cm		Percent	Nuclepore (1 micron)		Percent	Millipore (8 microns)		Percent
Manufacturer												
A	93	±	5	3.5	±	2	1.1	±	0.2	54	±	7
B	34	±	12	58	±	12	22	±	6	26	±	4
C	64	±	6	30	±	13	27	±	13	48	±	10
D	6	±	6	83	±	12	0.5	±	0.1	15	±	0.5