

TEM. These alterations might be due to manipulation of cells during harvesting, pelleting, or washing, mainly degranulations and some pseudo-pod formation. None of these changes could be attributed to labeling with In-111 oxine or In-111 tropolone.

MRINAL K. DEWANJEE  
Mayo Clinic  
Rochester, Minnesota

## REFERENCES

1. DEWANJEE MK, FUSTER V, KAYE MP, et al: Imaging platelet deposition with  $^{111}\text{In}$ -labeled platelets in coronary artery bypass grafts in dogs. *Mayo Clin Proc* 53:327-331, 1978
2. DEWANJEE MK, PUMPHREY CW, MURPHY KP, et al: Evaluation of platelet-inhibitor drugs in a canine bilateral femoral implant model. *Am Soc Artif Int Organs* 28:504-509, 1982
3. DEWANJEE MK, RAO SA, DIDISHEIM P: Indium-111 tropolone, a new high-affinity platelet label: Preparation and evaluation of labeling parameters. *J Nucl Med* 22:981-987, 1981
4. RAO SA, DEWANJEE MK: Comparative evaluation of red cell-labeling parameters of three lipid-soluble- $^{111}\text{In}$ -chelates: Effect of lipid solubility on membrane incorporation and stability constant on transchelation. *Eur J of Nucl Med* 7:282-285, 1982
5. DEWANJEE MK, RAO SA, ROSEMARK JA, et al: Indium-111 tropolone: A new tracer for platelet labeling. *Radiology* 145: 149-153, 1982
6. DANPURE HJ, OSMAN S, BRADY F: The labeling of blood cells in plasma with In-tropolonate. *Brit J of Radiol* 55: 247-249, 1982
7. GRADY RW, GRAZIANO JH, WHITE GP, et al: The development of new iron-chelating drugs. II. *J Pharmacol Exper Therapeut* 205:757-765, 1978
8. DANPURE HJ, OSMAN S, Peters AM, Saverymuttu SH, Reavy HJ, Brady F, Lavender JP: The advantages of labeling granulocytes in plasma with In-111 tropolone. *Proc 3rd World Congress of Nucl Med Biol Vol III*, 2395-2398, 1982
9. THAKUR ML, BARRY MJ: Preparation and evaluation of a new indium-111 agent for efficient labeling of human platelets in plasma. *Proceedings of the Fourth Int Symp on Radiopharmaceutical Chemistry*, Jülich, German Nuclear Research Ctr., 1982, pp 140-142

### Re: Cardiac Lymphoscintigraphy Following Closed-Chest Catheter Injection of Radiolabeled Colloid Into the Myocardium of Dogs: Concise Communication

I read with interest this article (1) that describes an elegant technique for yet another application of lymphoscintigraphy and would appreciate further comment on the following points.

The authors selected  $^{99\text{m}}\text{TcSb}_2\text{S}_3$  and In-III hydroxide colloid as their agents, but the majority of the data reported concerns  $^{99\text{m}}\text{TcSb}_2\text{S}_3$  with only brief allusion to In-III hydroxide colloid as a cardiac lymphoscintigraphic agent. What influenced their choice of this agent in the first instance?

On post mortem examination and imaging, nodes located between the aorta and pulmonary outflow tract consistently were found to contain radiocolloid; however, there were also at least four to seven nonradioactive thoracic nodes harvested from each animal.

I would be interested in the authors' interpretation of these findings. What was the precise location in the thorax of the nonradioactive nodes? I assume they are anterior mediastinal nodes receiving drainage from the peritoneal cavity via the phrenic lymphatics, which would be demonstrable with intraperitoneal radiocolloid and not necessarily lymph nodes draining the myocardium.

Incidentally, Ref. 24 has been in print since 1979 (2).

GÜNEŞ N. EGE  
The Princess Margaret Hospital  
University of Toronto,  
Toronto, Ontario

## REFERENCES

1. OSBAKKEN MD, KOPIWODA AS, SWAN A, et al: Cardiac lymphoscintigraphy following closed-chest catheter injection of radiolabeled colloid into the myocardium of dogs: Concise communication. *J Nucl Med* 23:883-889, 1982
2. EGE GN, WARBUCK-CERONE A, BRONSKILL MJ: Radionuclide lymphoscintigraphy—An update. *Radiopharmaceuticals II. Proceedings of the Second International Symposium on Radiopharmaceuticals*. Society of Nuclear Medicine, New York, 1979, pp 241-258

## Reply

The authors thank Dr. Ege for her thoughtful questions about our article on cardiac lymphoscintigraphy (1). In response to the first question, the data in Table 1 refer to studies with  $^{99\text{m}}\text{TcSb}_2\text{S}_3$ . The hypotheses approached by the investigation of cardiac lymphatics were that the sites of lymphatic drainage from the right and left ventricles were similar and that the rate of drainage from the heart was rapid. Our preliminary results in dogs studied sequentially suggested that this was indeed the case. We felt compelled, however, to investigate this process with simultaneous injections in both ventricles, which required the selection of a second colloid. The choice of In-III hydroxide colloid as the alternative material for these studies was based on the preliminary work of Castronovo (2). Although no definitive data comparing indium colloid and antimony sulfide were available, we felt that the crossover experiment would solve the problem of comparison.

There were typically four to seven nodes located in the superior mediastinum that did not contain radioactivity. The precise location of these nodes varied. We interpreted this observation, as suggested by Dr. Ege, to indicate that these nodes did not drain the myocardium.

MARY OSBAKKEN  
SUSAN KOPIWODA  
FRANK P. CASTRONOVO  
H. WILLIAM STRAUSS  
Massachusetts General Hospital  
Boston, Massachusetts

## REFERENCES

1. OSBAKKEN MD, KOPIWODA AS, SWAN A, et al: Cardiac lymphoscintigraphy following closed-chest catheter injection of radiolabeled colloid into the myocardium of dogs: Concise communication. *J Nucl Med* 23:883-889, 1982
2. CASTRONOVO FP, WAGNER HN: Comparative toxicity and pharmacodynamics of ionic indium chloride and hydrated indium oxide. *J Nucl Med* 14:677-682, 1973