

unit volume of tissue. Thus, Preisman and Halpern's postulate was corroborated by our case.

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REFERENCE

1. PREISMAN R, HALPERN SE: Effect of unilateral pulmonary hypovascularity on the bone scan: Case report. *J Nucl Med* 17: 27-28, 1976

Effects of Iron on ^{67}Ga Uptake

In their description of experiments concerning the effects of added iron on ^{67}Ga incorporation into leukocytes, Hill et al. did not specify the type of filter used to trap the leukocytes prior to washing and counting. We have observed that many filters show a strong affinity for gallium and that, once adherent, the gallium cannot be removed by washing. In some instances, depending on the nature of the filtered material, the gallium binding is increased by the presence of iron. Our experience with this effect is detailed in Table 1.

These results were obtained after filtration of $10\ \mu\text{Ci}$ of ^{67}Ga -citrate in cell-free nutrient medium, followed by five-fold washings with identical volumes of physiologic saline. The concentration of ferric chloride was $10^{-4}\ M$. All the filters tested by us retained gallium to a variable extent characteristic of the material of which they were constructed. With the methylcellulose and nylon filters, the retention was greatly increased by the presence of ferric ion. We have not studied the effect at other iron concentrations. Since Hill et al. found an increased gallium retention on the filter at $10^{-4}\ M$ and more so at lower concentrations, one must know the gallium-retaining properties of the filters themselves before any conclusions can be drawn about the significance of their results.

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REFERENCE

1. HILL JH, MERZ T, WAGNER HN: Iron-induced enhancement of ^{67}Ga uptake in a model human leukocyte culture system. *J Nucl Med* 16: 1183-1186, 1975

Reply

The interesting results presented by Dr. Driedger have little or no meaning in terms of our recently published paper. The most important consideration is the fact that the increased ^{67}Ga accumulation on cells in the presence of iron (FeCl_3) occurs at concentrations two orders of magnitude lower than those observed by Dr. Driedger. At the levels of iron that these investigators used ($10^{-4}\ M$), the association of ^{67}Ga with cells, seen in our experiments, decreases rather than increases. In addition, the effect is seen with iron dextran as well as FeCl_3 . These data are presented in Tables 1 and 2 of our publication.

That the increase in ^{67}Ga uptake is a cellular increase can be shown by autoradiography. The ^{67}Ga is not washed off by repeated washings of the cells on the filter, but it is digested off the cells with short trypsin treatments. Lastly, it should be added that when the cells are centrifuged and washed, the remaining pellet of cells shows the same increase of ^{67}Ga uptake in the presence of iron as the cells did when trapped on the Millipore filter.

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Myocardial Localization of $^{99\text{m}}\text{Tc}$ -Pyrophosphate

We are prompted to write concerning a report (1) of two patients with malignant disease in whom unexplained myocardial localization of $^{99\text{m}}\text{Tc}$ -pyrophosphate was observed. It would be of interest to know what therapy was used in these patients, one of whom developed cardiac decompensation. The tumor types involved (lung and breast) are relatively responsive to adriamycin, and a side effect of this drug is to cause a cardiomyopathy, reportedly associated with mitochondrial granules interpreted as concentrations of Ca^{+2} and Mg^{+2} cationic complexes (2). Thus, we wonder whether the type of therapy might explain the finding described.

Those of us working in oncologic centers need to be aware of the possible myocardial localization of $^{99\text{m}}\text{Tc}$ -pyrophosphate and its analogs in patients treated with adriamycin,

TABLE 1. RETENTION OF GALLIUM ON MILLIPORE FILTERS AND THE EFFECTS OF Fe^{+3}

Experiment	Filter Type					
	Mf (cellulose esters)		Duralon (nylon)		Mitex (Teflon)	
	Control	With Fe^{+3}	Control	With Fe^{+3}	Control	With Fe^{+3}
1	54,434	224,582	77,686	634,895	13,400	22,993
2	50,708	442,368	72,101	291,151	41,440	34,484
3	99,012	531,942	142,025	529,494	91,080	89,765
Mean	68,051	399,630	97,271	485,180	48,640	49,081
Percent increase		437%		444%		1%