5. The solution is heated in a boiling water bath for 10 minutes to coagulate the $Ga(OH)_3$.

6. The solution is centrifuged, and the supernatant solution is discarded.

7. The $Ga(OH)_3$ is dissolved with a minimum volume of hot 20% NaOH.

8. The solution is acidified with about 1 ml of concentrated HCl.

The time required for the procedure is about 30 minutes. With 10 mg of carrier Ga about 60 per cent of Ga^{68} from the EDTA solution is obtained. With 20 mg of carrier 70 per cent recovery is obtained.

ACKNOWLEDGEMENT

Mr. Edward A. Heilstad and Mr. Will D. Phillips of the Health Chemistry Department, Lawrence Radiation Laboratory, assisted in the development of the shielding and hardware.

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LETTER TO THE EDITOR

TO THE EDITOR:

I have had a chance to read Mr. Harris's and Dr. Blau's letters to the editor. The nuclear physicists who co-operated with me in the 197 calculations took all available literature into their calculations and did not utilize the information supplied by Mr. Harris. Five months before the publication of our scientific letter to the editor, the published form of the Mercury-197 dosimetry was forwarded to Mr. Harris. In the time period until the publication of the dosimetry of Mercury-197 in the Journal of Nuclear Medicine, there had been no comment from Mr. Harris and Dr. Ross's laboratory. I am sure that Dr. Roerer, Dr. Ross and Mr. Harris did put thought into their version of the calculations about Mercury-197, however we stand by our calculations. It would also like to point out that there are others than the major supplier of Mercury-197, and the other suppliers have been helpful to us in verifying our calculations. I believe the confusion as to the decay scheme of Mercury-197 should have been discussed between the physicist and the supplier of the isotope before they presented the isotope to the clinician. It will be noted, however, that even with Mr. Harris's and Dr. Roerer's calculated figures for E_B and the specific gamma-ray emission that the calculated dose of Mercury-197 still falls far below the calculated dose of Mercury-203.

In Dr. Blau's letter to the editor, it is obvious that statements out of context can be explained in many ways. It is difficult in a letter to enlarge on factual information. The tissue-to-background ratio mentioned in Dr. Blau's first paragraph was a misprint and should have been tumor-to-background ratio, and these were facts ascertained *in vitro* and *in vivo*. Dr. Blau's collimation comments are well-taken; however, it is a fact that 68-77 Kev is much easier to

collimate than .280 Mev. Dr. Blau's current estimations of disintegration are in the previously mentioned letter to the editor and do not agree with our estimations. His crystal photo-peak efficiency is in error. If he ever has calculated crystal efficiency a 3 x 2 crystal in Mercury-203 gamma-ray energy at most will have a 10 to 15 per cent efficiency. However, the 77 Kev with the same crystal has approximately a 30 per cent efficiency.

Our increased statistics of Mercury-197 can be partly attributed to the increase in Mercury-197 quantity administered. We now give 1 millicurie of Mercury-197 Neohydrin, where we only could give .7 millicuries of Mercury-203 Neohydrin. This was mentioned to Dr. Blau in the phone call that preceded his letter. Dr. Blau's quote of Harris's article in the Journal of Nuclear Medicine is of great interest. If Dr. Blau has used Mercury-197 clinically for brain tumors he will know that the tumor utilizing the Mercury-197 appears larger than it does with Mercury-203. The coherent scatter, therefore, in a point source makes lesions that are hot appear larger. The International Atomic Energy Agency's standard scanning phantom (of which Dr. Blau and Dr. Bender have the only copy), may be of great interest to them. However, patient results are of most interest to me. I saw their scans, and I might state that they utilize a different scanning technique and equipment than we utilize. In our hands, we can visualize a tumor 15 cm. away from the crystal with Mercury-197. I might mention that the analyzer window that they utilize for Mercury-197 is incorrect. A 10-volt window around the 77-Kev gamma emission cuts off the main x-ray peaks of this isotope. A 60-Kev to a 90-Kev window is more correct.

It is important that Dr. Blau would mention the radiation dose as being distinctly lower than 203. If Kellershohn's group in France is correct in their calculations of radiation dose we in this country, in our calculation of the remaining radiation dose of Mercury, have been in gross error. Mercurial compounds localize only in a small portion of the kidney, the cortex. Neohydrin retention is entirely cortical. Drs. Blau and Bender as well as many others, including myself, have been calculating the radiation dose to the kidney with a "G" factor. Kellershohn's group has calculated the radiation dose for 197 and 203 utilizing just the cortex of the kidney, and now we have a serious radiation problem. The least radiation dose the kidneys could receive with a 150-250μc dose of Mercury-203 would be as Kellershohn states, approximately 75 rads. Those that know radiation biology know that this is getting into an area where renal damage can be expected. The clinicians have, therefore, interest in the radiation dose delivered to the patient; and for this reason I believe that Mercury-203 should be dropped from clinical scanning.

Dr. Blau's last paragraph does not deserve comment. We are past the point of looking just for brain-scanning agents. There is so much more that clinical medicine needs that we can supply. By now Dr. Blau knows that we have extended the Mercury-197 localization to all carcinoma, and at this point this is most helpful to the radiotherapist. Although brain scanning has introduced us to the fine art of photoscanning, we believe there are many other areas of interest in this field. Anything we can do to lower the radiation dose to the patient, and to help popularize this field of medicine, can only help the patients of the future.

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