

To: W. S. Snyder

July 30, 1962

From: K. Z. Morgan

I have had two telephone calls today with reference to persons having large body burdens of radionuclides. One of these persons has a large body burden of polonium-210, the other plutonium-238 (actually there are two exposure cases for each radionuclide). The polonium-210 exposures occurred in connection with the Princeton accelerator. I was not able to get the name of the man over the phone because of the poor connection and his foreign accent. The name I believe was Miguel Awaschalom. In this case there are two persons having a urine excretion of 800-1200 d/m/24-hour sample. One of these persons was involved in an accident about three weeks ago. He was not sure the method of body intake but thought it was through the skin because there was very little contamination of the face and the hands were so highly contaminated, they had to use a severe treatment to bring them down to an acceptable level. The other case was a man who was exposed a year or more ago and still has levels of this magnitude. Both persons have fecal counts of about 800 d/m/single excretion. I discussed this case with Dr. Snyder and he suggests that perhaps the persons have a body burden of radium D (lead-210) which has a twenty-two year half life and decays to the daughter, radium E, with a half life of five days and then to polonium-210, the granddaughter. In any case, it appears that these two persons have a serious body burden of polonium-210 and maybe a more serious burden of lead-210. It may be possible that we can offer some assistance, such as total body counting and the suggestion that they look for lead-210 in the urine and feces.

The second case refer to a phone call from a doctor, L. V. Jones, at Mound Laboratory, Miamisburg, Ohio (Phone 86-6311). Dr. Jones indicated that in conversations with Dave Bruner in the Washington Office, it was suggested he might contact us for assistance. He has two persons that have large body burdens of plutonium-238. One of these persons was exposed in March, 1961, and by July, 1961, he had approximately five body burdens. The level in the body is still essentially the same although he did attempt ETA treatment and was successful in removing only about 8% of the plutonium. The other person was exposed in July, 1960, and now has about two body burdens of plutonium-238. He was successful in removing about 6% in this case with ETA. Jones is interested in sending down these two patients for total body count and, if possible, some scanning. Perhaps with a more favorable gamma, which in this case I believe is about 39 kev at 0.03% or about ten times the efficiency of emission of a corresponding gamma from plutonium-239, we could expect to get some favorable results. Also, there is a gamma of 150 kev with a 1×10^{-5} efficiency which might be used. By copy of this letter I am asking Dr. Snyder, and in particular Mr. Royster, to let me have a reply regarding the answers we

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A-00532

Human Studies Project

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can send to these two persons relative to the polonium and plutonium exposures. In the case of the polonium accident or accidents, the person who phoned me is sending a written memorandum giving the details. I hope by such memorandum we can get his name and perhaps evaluate more accurately his problem. In the case of Dr. Jones and his two patients that have body burdens of plutonium-238, I indicated that we would do all in our power to offer him assistance but that I felt we would be in a better position in about a month from now. At this time we would hope that Fish and Snyder will have returned from their trip to Europe and perhaps in the meantime we could have obtained some calibration data for this radionuclide. We are to let him know what action we will take.

Thanks,

Original Signed By

K. Z. MORGAN

Karl

KZM:mh

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