

September 24, 1968

Professor Oscar N. Rambo
 Director, Anatomy-Pathology Laboratory
 576 Moffitt Hospital
 University of California Medical Center
 San Francisco, California 94122

Dear Professor Rambo:

I am writing to ask if you will give us some assistance with a project involving some medical records and pathologic specimens that I believe are available to your Laboratory.

I am sure you are aware that the scientists of the World War II Manhattan Project who first produced the element, plutonium, were concerned very early about the potential toxicity of this material. In 1945-46, in addition to animal experiments, a few persons, all hospital patients, were given small amounts of Pu, and Pu deposition and elimination were studied.

The late Dr. Joseph G. Hamilton, and his group at Crocker Laboratory, conducted many of the Pu animal experiments for the Manhattan Project. He was also associated with the U.C. Medical School. From 1945 to 1947 four U.C. patients were injected with either Pu or another transuranic element, americium. All of these patients were scheduled for biopsy or surgery. Three had osteogenic sarcoma. The fourth had been diagnosed as gastric cancer, but surgery revealed a long-standing ulcer with adhesions. This individual was studied intensively by the Crocker Laboratory group, and provided daily excretion samples for more than a year.

Some of the patients studied elsewhere, although elderly and believed at the time of injection to have a short life expectancy, were also misdiagnosed. Because of this, there was understandably a great uproar in 1946-47 when the semi-public Atomic Energy Commission took over from the "secret" Manhattan District. As a result, the human data obtained thus far was classified "Secret". All efforts to follow up on

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those persons who had been injected ceased, and no other person has been given Pu deliberately. Gradually this classification was downgraded, and the bulk of the available results now appear in the open literature. Unfortunately, the material from three of the four persons injected by Dr. Hamilton has never been made available to anyone. It lay in storage for more than 20 years, and was only discovered in a search of old records for an entirely different purpose.

Today the production of Pu is enormous, and all indications are that it will continue to increase. More people in the nuclear energy field are being exposed to Pu and more are to be expected world-wide. Still--all of our knowledge about Pu behavior in man rests on the sketchy results from these persons injected in 1945-46. All of the records are incomplete.

We would like to obtain your permission to search your pathology files in order to make our records as complete as we can. We do not know the names of three of the persons, but we do have dates of surgery and descriptions of the tissue specimens given to Dr. Hamilton. Hopefully this will be enough so that identification can be made by a process of elimination.

We are even more interested in locating the tissue blocks from these persons. There is not one autoradiograph of Pu in human tissue. Modern techniques permit analyses and autoradiographs on very much smaller specimens than were needed in earlier years. Good results can be obtained on even a single histologic section.

I assure you that all records and specimens will be handled with full regard for their confidential medical nature and

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that, as is customary, no names will be used in publication. Dr. Patricia Durbin of our laboratory is reviewing the plutonium data. She has had a long and close association with the work of Dr. Hamilton's group, and with the study of plutonium in animals and man. Dr. Durbin will be available if needed to help in the search of the files.

We will be most grateful for any help you can give us with this problem.

Yours very truly,

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