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In Reply Refer to B

407567

U. S. NAVAL RADIOLOGICAL DEFENSE LABORATORY  
SAN FRANCISCO 24, CALIFORNIA

IN REPLY REFER TO FILE:

3-922C  
MSS:jh  
31 Mar 1954

001000

AIR MAIL

~~SECRET~~

From: M. S. Silverman, Experimental Pathology Branch  
To: V. P. Bond  
Via: Head, Biological and Medical Sciences Division

Subj: Immunological studies on radiation exposed personnel

Encl: (1) Protocol for Immunological Studies

1. The enclosed protocol to study the immune response in individuals exposed to internal radiation hazard is submitted.
2. Pasteurella pestis vaccine and sterile test tubes for the collection of blood are being sent under separate cover.

*M. S. Silverman*  
M. S. SILVERMAN

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FIRST ENDORSEMENT on ltr 3-922C/MSS:jh of 31 Mar 1954

From: Head, Biological and Medical Sciences Division  
To: V. P. Bond

1. Forwarded, approved.

*A. R. Behnke*  
A. R. BEHNKE  
Acting

STATUS VERIFIED UNCLASSIFIED  
*[Signature]* AUTHORIZED DERIVATIVE CLASSIFIER *BN* *5/7/97* DATE *4* *2*

~~RESTRICTED DATA~~  
~~Atomic Energy Act 1946~~

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29 March 1954

## Protocol for Immunological Studies:

1. Ten exposed individuals and 10 unexposed control individuals will be selected as subjects.
2. Obtain 10 ml of blood from each person before immunization to serve as controls.
3. Immunize each individual with Pasteurella pestis vaccine according to the following schedules:
  - a. First injection: 0.5 ml injected subcutaneously.
  - b. Second injection: 1.0 ml injected subcutaneously 7 days after the first injection.
4. One week after the second injection and at weekly intervals thereafter, obtain 10 ml of blood from the immunized personnel for the determination of antibody.
5. Send blood samples to M. S. Silverman, Code 3-922C, U. S. Naval Radiological Defense Laboratory for the determination of antibody content.

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Enclosure (1)

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~~Atomic Energy Act-1946~~

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Mr. Myron Silverman  
NavRadDefLab  
San Francisco, Calif.

~~RESTRICTED~~ DATA 4 April 1954

Dear Myron,

Stan arrived safely and brought your messages and proposals. We did not answer immediately because it took some time to investigate what could be done and frankly we had to "sleep on it" for a while. Gene Cronkite covered the situation fairly completely in the dispatch which I assume you have by now, but I'll go into it a little deeper.

There is no question that an immunological study on these people would be valuable and indicated ( or maybe would have been valuable - this is the 34th post-irradiation day). Gene and all here concur in this. But there are a few difficulties. The natives are not citizens of the U.S.A., but are wards of the United Nations, administered so by the Trust Territories, Dept. of the Interior, U.S.A. What happened to them, of course, is a "hot" subject, and what is done must be clearly of medical benefit for them. Anything smacking of using them for "guinea pigs" must be avoided, especially since the Japanese are accusing the U.S.A. of doing this in the ABCC. And it would be difficult to justify an immunological study on medical grounds. Since both we and the British have maintained that post-irradiation immunization at best is of no value and may in some instances be harmful, if anything did go wrong the repercussions would be tremendous. It would be easy if they were 82 animals rather than human beings.

In addition to the above there are other difficulties. The people have obviously been vaccinated with cowpox, but beyond that we know nothing of their immunological history. And with a serious language barrier and sparse or absent medical records, we have no idea where they stand. They are not hospitalized. They do not like to be "stuck" and are pretty tired even of the frequent finger pricks for hematology. An adequate control group is essentially impossible to obtain here. It would take at least a week to set up a lab, and the natives are getting better and are anxious to move soon to another island where they would not be easily available. All in all it does not appear feasible to us.

There has been no indication for bacteriological studies. With the dose received, there has been no evidence of infection, no temperature rise that could be associated with the irradiation.

The American patients would be more suitable, but a number of the above indicated difficulties apply there as well. Again it could not be justified other than as a research project, and

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would have to be on a volunteer basis and cleared through SecNav by correspondence, etc. ~~By that time~~ <sup>DATA</sup> I am sure most of them will have had grandchildren.

This sounds perhaps unduly pessimistic. But Gene has worried about it considerably, discussed the pros and cons with all concerned; and is not optimistic about it. However, we all would like very much to have you out here and feel it would be quite valuable to you to see these people. Stan Cohn could really use you here with his aspects of the work. If you could leave right away, you would be of considerable help here. You might talk it over with Capt. Behnke and will certainly be glad to see you if you can come. Advise against bringing bacteriological equipment or figuring on setting up new phase of the project, there simply isn't time.

The news about the conflicting results with the neutron runs is discouraging. I hop you can make enough out of it to avoid withdrawing the paper, but by all means withdraw it if you and Sandy think it should be. I think probably large part of the difficulty may be in neutron dosage, although I have considerable distrust of CFI mice now.

Still can't say when we can leave her, but the subjects appear definitely to be improving and I hope we can leave within two weeks. Stan may stay on later, however. Really hope we see you out here. Gene, Bob and Stan send their regards.

My best regards to all,

Victor P. Bond.

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