Dr. Albert B. Sabin:

Hôtel D'anquetre.
Copenhagen, Denmark.

Dear Dr. Sabin:

I am writing to you in order to keep you informed about some new findings which I have gotten in the laboratory. The most important thing is that in rechecking the unclassified viruses which we isolated from the cases with diarrhea, I found that the strains which originally were designated as 31 and 32 types (Table 3 of the paper you have) have been proved to belong to the ECHO group: 31 = ECHO 12 and 32 = ECHO 11. If you ask me how on earth I didn't find this before, I can tell you that the ECHO 12 antiserum we received is not as potent as it was supposed to be, and in the case of the ECHO 11 the only thing I can tell you is that it was probably one of those stupid mistakes I have sometimes because the ECHO 11 antiserum which I think I used it proved to be fully potent when I rechecked it and I can not explain myself why I did not have neutralization of the strains when they were tested previously. The unclassified strain which produced cytopathogenic changes similar to those observed with some of the A.P.C. viruses in monkey kidney, was identified as an A.P.C. type 3. We are left then with 6 unclassified strains, represented by 5 different immunogenic types which are designated 31 to 35 as you can see in the table I am attaching (c.p.)

Another interesting point is that though 31 virus is not neutralized by ECHO 6 serum, 31 antiserum neutralizes ECHO 6 virus suggesting that these 2 viruses (31 and ECHO 6) are related.
The patient from whom 11 virus was isolated showed a neutralizing antibody rise in the convalescent serum specimen against the ECHO 6 virus as well as against his own.

I am sure you will remember that Dr. Melnick isolated an agent with similar characteristics, this means an agent that is not neutralized by ECHO 6 serum, but which antisera neutralizes ECHO 6 virus. He calls this virus ECHO 6' virus. I have not tested our 11 virus against Melnick's ECHO 6' antisera but I'll do it when I receive the serum from him.

From our own experience I can tell you that the 11 virus and the ECHO 6 virus behave different in tissue culture, both produce changes similar to the changes produced by polio, but 11 viruses is slower acting and it has a lower titer.

Similar differences were found by Melnick with his agent.

Dr. Melnick told me that he has no evidence to believe that his ECHO 6' virus is a mixture of ECHO 6 virus plus other agent.

Finally I have to tell you that the manuscript of the paper which I sent to the New York Academy of Sciences had the proper corrections.

I hope I haven't made this story too confusing to you but I wanted to let you know, and that is why I didn't wait until your return to tell you about it.

The collection of the specimens this year is giving us nice cases. So far we have 25 cases with their respective normal controls. I expect to have around 50 cases by the end of the month.

I imagine you are having a wonderful time and I wish I could be there sharing it with you.

I hope to see you soon. I send you my best regards.

M. Ramos Alvar.