

May, 9, 1991

Personal communication between D. Altschuler and
Dr. John C. Snyder

"When I was sent to Tehran to find the origins of an epidemic of typhus, I isolated a strain of typhus from head lice picked off the head of a patient with typhus. I used a pair of forceps and put them into a sterile tube to take back to the laboratory in Cairo where I was able to establish that the head lice were infected. I used microscopic smears and guinea pig and gerbil inoculations. I included this observation in my personal diary but was much too busy to publish the information at the time."

Dr. Snyder also mentioned that while in Egypt he observed a group of women gathered around the corpse of a typhus patient. He noted head lice leaving the corpse and migrating up the long braids of women mourners. He explained this occurrence as a contributing factor to the village's epidemic of typhus.

December 5, 1991

Interview for Zinsser video
Dr. John C. Snyder

When asked about Dr. Murray's work on head lice and rickettsia, Dr. Snyder recollected the occasion when Dr. Murray showed him specimens from his research which demonstrated virulent rickettsiae from the gut of both a head louse and a body louse. Dr. Snyder noting Murray's excitement, commented in the interview that he had been convinced for some time that head lice were capable transmitters of typhus.

See Dr. Snyder's chapter on Typhus Fevers in the reference section.

January 10, 1992

EPIDEMIC TYPHUS FEVER IN YUGOSLAVIA AND RUSSIA

Circumstances in Yugoslavia and several parts of the former Soviet Union are now approaching conditions predisposing to disastrous outbreaks of louse-borne typhus similar to those that occurred earlier in this century -- civil strife, either currently in progress or imminent; severe cold; fuel shortages; refugees crowding together; hunger in many places. Lice multiply very rapidly and spread throughout populations that are subjected to such circumstances.

Furthermore, there are thousands of individuals in Yugoslavia and parts of the former Soviet Union who had typhus years before, some of whom will develop a recrudescence of the disease (Brill-Zinsser Disease), infect the lice that feed upon them, and start epidemics among their louse-infested contacts. In the 1950s and early '60s this was demonstrated conclusively by Dr. Edward S. Murray and his associates in Yugoslavia.

The spread of typhus was sharply curtailed during World War II by well organized and coordinated measures against lice, early procurement of necessary supplies, vaccination of personnel, and rapid identification of the early cases followed promptly by delousing of their contacts. Since that time, however, lice over much of the world have developed varying degrees of resistance to insecticides. To the best of my knowledge no work is being done currently to produce effective anti-typhus vaccine in quantity. More information is needed as to the possible effects of doxycycline administered to typhus patients and to their contacts on the infectivity of the feces of their lice. Personnel need to be trained to detect typhus cases quickly and to delouse not only the patients but also their contacts. To combat typhus successfully there should be an organization (such as the United States of America Typhus Commission that was established by Executive Order of President Roosevelt in 1942) with authority to prepare plans and coordinate activities of several international agencies both civilian and military.

The purpose of this statement is to urge the appropriate organizations in the United States to recognize the imminence of the typhus threat and develop a coordinated plan with the World Health Organization and other international agencies for rapid and effective action to prevent the kind of disaster that struck Yugoslavia in 1915 and large parts of the former Soviet Union in 1919-22. A few statistics emphasize the magnitude of former disasters:--

Serbia, 1915-16: "more than 150,000 deaths from typhus in less than six months"; Russia, 1919-22: "...more than twenty-five million cases of typhus in the territories controlled by the Soviet Republic, with from two and one-half to three million deaths." Zinsser, "Rats, Lice, and History" pp. 297-99.

John C. Snyder, M.D., Staff Member,
International Health Division,
the Rockefeller Foundation, 1940-46,
Member, United States of America Typhus Commission, 1942-45

112 Hugh Cargill Road
Concord, MA, 01742
February 15, '92

for your files

Dr. Y. Pervikov, Medical Officer,
Microbiology and Support Services
World Health Organization

Dear Dr. Pervikov,

Thank you for your letter summarizing the information available to WHO regarding epidemic louse borne typhus fever in East Europe, and also for the reprint of your article in the European Journal of Epidemiology, "The Role of WHO in the Control of Rickettsial Diseases". The steps that have been taken to identify laboratories in various countries for the Global Surveillance System are indeed encouraging.

There are several questions that you and your colleagues probably have considered, such as the degree of susceptibility of body lice and head lice to currently available insecticides in different regions, the effects of doxycycline administered to typhus patients on the multiplication of rickettsiae in the lice that feed upon them, and whether administration of doxycycline to close contacts of actual cases would protect the contacts and the personnel exposed to the cases, thus reducing the potential for spread of the disease in heavily infested populations where the lice are resistant to currently available insecticides, etc. These are questions based somewhat on the uncertainty of the immediate availability of potent vaccines for the immunization of personnel and contacts, the administrative difficulties of distribution, and so on.

Needless to say, I will greatly appreciate learning of your efforts and the steps that are being taken to act quickly in the sad event that circumstances become such as to support outbreaks of typhus. Perhaps it may help you understand why I am so concerned about typhus now if I tell you about my activities from 1940 to 1956.

As a staff member of the International Health Division of the Rockefeller Foundation I was assigned to work closely with Professor Hans Zinsser during the final eight months of his life when he was seeking to make a potent vaccine against epidemic typhus in tissue culture. He sent me to work with Dr. Herald Cox at the Rocky Mountain Laboratory in Hamilton, Montana, where I learned Cox's techniques for propagating rickettsiae in developing chick embryos and making vaccines therefrom. When Dr. Zinsser died the Foundation sent me to observe Dr. Ruiz Castenada's work in Mexico City, and then to Madrid, Spain, to study the epidemic that had broken out in several of the prisons in Madrid (in the aftermath of the Spanish Civil War). I isolated several strains of typhus from the patients and while inoculating mice intra-nasally with infected yolk sac suspensions I developed typhus myself (the strain causing my illness was the Madrid-1 strain derived from a fatal case of typhus in one of the prisons). Two of my Spanish colleagues kept the strain in serial passage in guinea pigs and in chick embryos; after numerous passages in eggs, they discovered that M-1 had lost virulence for guinea pigs. This became known as Strain E and I helped Dr. Perez Gallardo and Dr. John Fox establish the immunogenicity of Strain E attenuated vaccine against fully virulent strains of epidemic typhus. In 1942 in the Foundation's laboratories in the Rockefeller Institute in New York I found that para-aminobenzoic acid inhibited the multiplication of typhus rickettsiae - a finding that led to the use of this material in clinical studies in the severe epidemic in Egypt in 1943 and 44; in the Cairo Unit of the United States of America Typhus Commission Dr. Andrew Yeomans and I were able to eliminate the mortality from the disease if adequate amounts of PABA could be administered before the eighth day of the disease. During that same time I organized the studies that established the efficacy of Cox type yolk sac vaccine under

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de rappeler la référence:

Dr John C. Snyder
112 Hugh Cargill Road
Concord
MA 01742
Etats-Unis d'Amérique

2 April 1992

Dear Dr Snyder,

Thank you for your letter of 15 February 1992 concerning the control of rickettsial diseases in countries of East Europe and the historical aspects of Rickettsiology.

Please accept our apologies for the delay in replying to you. This is due to the fact that, in the meantime, we have been in contact with the Public Health Authorities in the countries in question. Recently our colleagues in Yugoslavia informed us that the last case of epidemic typhus recorded in that country was in 1971. Also, a limited number of cases of Brill-Zinsser disease has been noted over the last several years. For example, 13 cases were noted in Bosnia and Herzegovina in 1991. However, as there is no "Pediculosis vestimenti", there is no immediate risk of an outbreak of epidemic typhus from persons with Brill-Zinsser disease.

Your recommendations on the activities to be undertaken for a better control of epidemic typhus were discussed at a recent WHO HQ/EURO meeting on joint strategies for prevention and control of communicable diseases in selected countries of the Commonwealth of Independent States and Central and Eastern Europe. In accordance with the recommendations of the meeting, copies of your letter were dispatched to the Directors of WHO Collaborating Centres in Czechoslovakia and the Federation of Russia so that they may consider your proposals.

I take this opportunity to inform you that the report on the current status of the WHO Project on Global Surveillance of Rickettsial Diseases is being prepared for publication in one of the WHO editions. As soon as the manuscript is finalized and approved a copy will be sent to you.

With kind regards,

Yours sincerely,

Dr Y. Pervikov
Medical Officer