

February 28, 1940

Dr. Lucien Y. Dyrenforth
St. Luke's Hospital
Jacksonville, Florida

Dear Doctor Dyrenforth:

I was very much disappointed to have missed you when I was in Jacksonville last Saturday since not only would I have been pleased to make your acquaintance but I wished to obtain some specific information from you in the case of Mr. [REDACTED]. I did talk with your assistants and also examined the microscopic sections of the tissues which were available. Unfortunately we were unable to find any sections of the brain and I am curious as to the interpretation of the lymphocytic reaction of the cerebral tissue. In this connection I wonder if I could impose upon you to supply me with a set of the microscopic sections in this case for further study or, if this is inconvenient, perhaps you might be willing to send me your paraffin blocks which we will be glad to return to you when we have had the opportunity to make some sections for ourselves.

The question which I wished to raise concerned the possibility of the contamination of the tissues in the process of their removal from the body, and their storage in your laboratory. We were unable to find any additional tissues except that the orderly found a large container with a sectioned brain which he said was that of Hubbard. It occurred to me, therefore, that you probably sent us all of the viscera that you had except that of the brain. If that were the case, there seems little or no possibility that these bits of tissue could have been significantly contaminated with lead while in your hands. Nevertheless, because of the importance of this case, I would be very much pleased if you would let me know how the tissues were handled after their removal from the body, and what precautions were taken in the matter of reasonable cleanliness in handling them. I am thinking, of course, particularly of the possibility that they have come in contact with some container which had lead in it in the form of solder or solution or what not.

While I was there, I looked after the question of the embalming fluids and was able to obtain samples of the material used in embalming prior to the necropsy.

In as much as it seemed apparent that you had ample quantities of brain tissue, I wonder if you would not be willing to send me an additional sample of about 100 grams or more of this brain for a further analysis. In my opinion the results are quite conclusive but I should like to check the matter further. Also, as I have indicated, I would like to have the means of making further microscopic study of the tissues, and especially the brain.

Incidentally I shall make a full report on our findings when we have gathered together all of the loose ends. I believe we shall not only be able to establish a definite diagnosis, but will be able to trace the mechanism by which serious exposure to lead occurred.

- With reference to the examination of biological materials for lead, I wish to say without appearing to be critical, that the spinal fluid is not a good material for examination. The lead content of spinal fluid is always quite low under even the most extreme conditions of exposure, and it has not been established adequately that the concentration of lead in the spinal fluid shows any relationship to the lead content of the brain or the other tissues. In the living person the blood and urine are the most useful materials for examination, and the limits of the normal concentrations as well as the range of values found under conditions of lead absorption have been worked out quite adequately for both of these materials. In the deceased person, it is wise to examine all of the viscera and also parts of the skeleton both of the long bones and of the flat bones, and to determine the concentrations in such a manner as to be able to calculate approximately the lead content of the body. When it is not possible to do this, the most useful tissues to examine are the skeletal tissues, the liver, the kidney and imperatively, in cases of suspected encephalopathy, the brain. The normal concentration of lead in these tissues have been fairly well worked out although not with the same degree of completeness as in the case of the blood and urine. Incidentally the examination of the feces is almost useless under any set of conditions and especially for medico-legal purposes, since lead is always present in the alimentary tract, and since ^{the} quantities there vary with wide limits by reason of the variable lead content of food substances.

If you should be interested in the data in support of my statements which I have made above, and also in the methods of analysis which have been worked out in more or less recent years, I shall be glad to forward these to you.

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In conclusion please accept my thanks for your very generous cooperation and my further thanks in advance for any assistance which you can give me along the lines of the foregoing paragraphs.

Cordially yours,

RAK:is

Robert A. Kehoe, M.D.

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