

January 20, 1937

Hertzler Clinic
Halstead
Kansas

Attention: Dr. D. V. Conwell

Dear Doctor Conwell:

I have your letter of January 14th concerning Mr. [REDACTED]. I am replying to your letter at once in spite of the fact that my associate Dr. L. W. Sanders has planned to get in touch with Mr. [REDACTED] in the course of a trip which he is making into that section of the country. It is possible that by the time you receive this letter, Dr. Sanders will have seen you. In any case if he has not, he probably will get in touch with you at a later date.

The diagnosis in the case of Mr. [REDACTED] would appear to be justified by the description you have given of his condition. However as to the significance of lead in this picture, I am more than skeptical and perhaps it would be well if I stated the basis of my attitude. I am quite familiar with the reports which appeared some time ago in the literature as to the possible relationship between lead absorption and multiple sclerosis. In my opinion the relationship has never been more than hypothetical, and in the case reported in the literature the analytical observations were so obviously incorrect that I attached no significance to them. We in this laboratory have been working with lead in animal and human tissues for quite some period of time, and the work which we have done in recent years has involved the use of methods which are much more precise than those in general use. We are quite certain in terms of both animal and human behavior that high lead concentrations in the brain occur only as the consequence of massive exposure to lead compounds. In general when the rate of absorption is low, the quantities of lead which find their way to the central nervous system are very minute indeed. On the other hand, the results reported were higher than any we have seen even in the most acute cases of death from massive exposure. I feel quite certain, therefore, that they were obtained by improper methods or that the tissues in question were contaminated with lead from external sources. In any case I am

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quite sure that no one has established a definite relationship between focal lesions of the brain and cord and lead absorption.

As to the lead exposure involved in the handling of leaded gasoline, I think we will have to accept on the basis of very sound evidence, that it is very minute indeed, if it is existent at all. We have been studying this problem over a period of years and we have failed to find laboratory evidence of the existence of lead absorption among men who have had the most severe and prolonged exposure through skin contact with leaded gasoline. Moreover our observations on experimental animals have proven beyond the shadow of a doubt that the lead absorption associated with skin contact with gasoline containing commercial amounts of tetraethyl lead is so slight that it can not be measured. It is possible that if one lived in an environment free of lead, and if he ate food that was lead free, it might be possible to demonstrate some measureable lead absorption as the result of gross and prolonged contact with leaded gasoline. It is quite certain now, I believe, that the magnitude of such absorption is very materially less than the absorption which results from eating a normal diet with its normal lead content. With these facts in mind I can not feel that there is any necessity or advisability in taking Mr. [REDACTED] out of his occupation which involves the handling of leaded gasoline. This occupation is not a hazardous one. It has not been shown to involve any lead absorption at all, and since his neurologic lesion is one which may only most doubtfully be attributed to lead absorption in any case, I do not feel that he should give up his occupation. Certainly not unless he has some other means of working and earning a living which is just as convenient and just as lucrative as his present work. Of course Mr. [REDACTED] is your patient and I shall not give him any such advice as I have indicated in this letter since it is up to you to advise him in accordance with your best judgment. Therefore I am only stating the position I would take if he were my patient. If I felt he was running the slightest risk of significant lead absorption in his occupation, I would advise him differently.

I presume from what you have said that Mr. [REDACTED] has not been engaging in his usual occupation since October. If you are interested in getting some information on the extent of his occupational lead exposure, I would suggest to you the following experiment. I could send you containers for a sample of blood and for a sample of urine from Mr. [REDACTED] before he returns to his work. Then if you are willing to allow him to return to his work, we might obtain additional samples at a later date, say some months after he has returned to his former occupation. Any sig-

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nificant lead absorption would be very readily shown by the comparison of the results of the two sets of analyses. Actually we have studied quite a number of persons before and after exposure of this sort, and we have yet to find an instance in which there has been any measureable change in the lead content of the blood or the lead output of the excreta. Observations comparable to these made in relation to the hazardous lead trades always show very significant differences.

I would appreciate very much knowing your reactions to the contents of my letter, and I would also be very grateful to you if you will tell me of any further developments in Mr. [REDACTED] case.

Very truly yours,

RAK:is

Robert A. Kehoe, M.D.

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