

January 13, 1941

Dr. E. Cowles Andrus
The Johns Hopkins Hospital
Baltimore, Maryland

Dear Doctor Andrus:

I am very glad to send you, under separate cover, several reprints which give most of the accumulated clinical and experimental observations on the behavior of tetraethyl lead. We have a considerable amount of data which have not been published, but which have been awaiting the day when I could take the time to study them properly and put them into print. Generally speaking, they verify the previously published material. There is one exception, however, to which I wish to call your attention, since it is of considerable clinical importance in relation to the possibility of sequelae. I hitherto called attention to the fact that the lead concentration in the brain tended to remain constant, or nearly so, regardless of the lapse of time after the cessation of exposure. More recent observations have shown that this is not the case at all for some of the other organic lead compounds, and that it is probably not the case for tetraethyl lead. It would appear that the earlier high results were due to the use of a method of analysis which is much less sensitive and accurate than the present methods. Many, in fact most of the results on the small brains of rabbits were just at the limits of error of the method and were, therefore, greatly magnified when calculated on the basis of 100 grams of fresh material.

You will find very little adequate information on the pathology of tetraethyl lead poisoning, not because the matter has not been studied, but because very little of consequence has been found. The brains of acutely poisoned animals always show considerable edema and sometimes a considerable amount of hyperemia or congestion. Microscopic changes, which are associated with edema and localized lesions, have not been found. Moreover

fatal cases in human beings have added very little more to the picture. In this connection it is interesting to consider that of the cases which have survived, of which there has been a goodly number, little or nothing in the way of sequelae has been seen. Several survivors have had mental disturbances, and in one instance these continued for such a period that we feared they would be permanent. Lead analyses carried out during this period, however, showed that the lead content of the tissues remained high, and it was not until substantially normal concentrations in the blood and urine were reached, that the symptoms subsided.

If any specific questions should suggest themselves to you from the examination of these articles, I should be glad to do my best to answer them.

regards, I am

With kindest personal

Sincerely yours,

RAK:is

Robert A. Kehoe, M.D.

P.S. I am sending you a few other reprints which may be of interest to you. RAK.