June 19, 1943

(19)

Dr. Augustus Gibson,
Merck and Company, Inc.,
Rahway, New Jersey.

Dear Dr. Gibson:

Several days ago I sent you containers and instructions for the collection of samples of blood and urine. I hope you have received these in good condition and that you will find it possible to obtain the samples indicated.

Now to reply to your letter. The only information which we can help you obtain is that related to theseverity of your patient's exposure. It is not possible by analytical means to make a diagnosis, nor is it possible to venture an opinion on the prognosis except insofar as the excretory aspects of the problem are concerned. That is to say, one can determine whether the exposure has been severe or not and whether a long time will be required for the elimination of the lead from the body. As to the actual effects of the absorbed lead, one can make no prediction, except that in general, the greater the absorption the greater the likelihood of serious intoxication. In this type of work the examination of the feces is of no importance, but determination of the blood and urine concentrations are helpful. If this man had any lead exposure of consequence, he will show elevated concentrations of lead in the blood and urine. The fact that he discontinued his work in the latter part of May should not change the picture materially, although the concentrations will undoubtedly be lower than they were at that time.

My own opinion would be that most of the clinical findings mentioned in your letter are wholly unrelated to lead absorption. Certainly the information obtained in February of 1937 and 38 would not seem to bear an important relation to lead absorption. In fact, if the analytical result reported at that time can be accepted as accurate, one would have good reason for believing that there had been no significant lead absorption.

In general, lead burners do not absorb large quantities of lead. However, under certain conditions of virtually continuous work in enclosed or poorly ventilated areas, they may absorb large quantities, and they may become acutely ill in the course of a

short period of time. In the case of your man, there appears to be nothing specifically suggestive of lead absorption, except the cramp-like pain in the abdomen. Apparently from the report, even blood changes were not very characteristic, since there was apparently but little stippling. In this connection it might be wise at this time if convenient to send us one or two unstained, unfixed blood smears for microscopic determination.

With respect to treatment, I should advise only the maintenance of good alimentary and urinary elimination. Saline cathartics may be used as needed to maintain free alimentary elimination, and adequate intake of liquids should be supplied. Nothing is required beyond this, except the assurance of a fully adequate diet and the elimination of exposure to lead compounds. (I presume the colic, if it was lead colic, has now subsided. If it has not, it would almost certainly not be produced by lead. Colic can best be relieved by the administration of calcium gluconate intravenously. Once the colic has been relieved, there is no point in the continuance of calcium administration. In an occasional very intractable case, it may be necessary to use morphine.)

Very truly yours,

Robert A. Kehoe, M. D.

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