

January 5, 1948

Dr. Robert Buchanan,
Doctors' Building,
Nashville, Tennessee.

Dear Dr. Buchanan:

A short time ago my attention was called to a report of Dr. Paul G. Morrissey, Jr., concerning a Mr. [REDACTED], which indicated that Mr. [REDACTED] had an illness which was regarded as acute lead poisoning. The report also stated that unusually large quantities of lead had been found in the urine of this patient. Inasmuch as we have been checking up on suspected cases of lead poisoning, in connection with the handling of leaded gasoline over a period of many years, I wrote Dr. Morrissey for further information. I have just received his reply, stating that this man was your patient, and suggesting that I write to you for information. I trust you will realize that, in requesting such information, I have no wish to intrude into your private practice, or to request any type of privileged information.

I might make a few comments concerning our experience with this general problem. I assume from the fact that you are a dermatologist, that you have seen this man in an attack of dermatitis. Since we have never seen any other type of illness in association with contact with gasoline, that seems a logical conclusion, and I wish to point out that such dermatitis is an expression of the characteristics of the gasoline alone. The lead compound that is in leaded gasoline has never been known to produce dermatitis, even under conditions of contact with the concentrated material. Moreover, our observations on a number of cases of rather severe dermatitis, have demonstrated the occurrence of sensitivity, on the part of a worker, to the gasoline. In our experience this is rather rare, but it has occurred, and we have seen a few instances which required the removal of the patient from any and all contact with gasoline for some period of time until the sensitivity diminished greatly.

In the case in question I should have been very much disturbed by the diagnostic expression "acute lead poisoning," except for the fact that certain analytical data given in the report appeared to provide the background for this conclusion. I should like to point out to you further that lead absorption through the skin does not occur to any appreciable or measurable degree, as the result of contact with leaded gasoline. We have studied this problem carefully for many years, and both experiment and experience have proved this point beyond all doubt. Consequently, the finding of 1 milligram or more of lead per liter of the urine of a person hypothetically exposed to lead in this manner is an utter impossibility. Lead concentrations

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in the urine of this order of magnitude are found only with the greatest rarity, and under situations which involve the most intense type of industrial lead exposure that is known. Generally speaking, analytical results of this order of magnitude convict themselves of this inaccuracy without further investigation. It may be assumed that these samples were contaminated in the process of their collection, or that the analytical procedures were not sufficiently precise to yield credible results. Perhaps you will realize that I am not being carpingly critical in making this statement. We have had rather more experience than anyone else in this country or elsewhere with this problem, and we are aware of the very great difficulties which present themselves to any but the most experienced analyst. Samples of urine collected by the usual techniques, in the hospital or elsewhere, rarely escape serious contamination, while ^{the} ordinary chemical laboratory which is not designed especially for this purpose is an entirely unsuitable place for lead analyses. Moreover, methods used by otherwise competent analytical chemists or laboratory technicians, cannot be expected to produce accurate results. I make these statements preliminary to an offer to supply you with containers and instructions for obtaining additional samples (blood and urine) for analyses. We are very anxious to know the facts in this case, so as either to exclude or substantiate the previous results. If it should happen that this man's lead excretion is at a high level, it will be necessary to look into the source of his lead exposure with considerable care.

I should appreciate it very much indeed if you would give me such information as you have on this man. I should be glad to give you and your patient any assistance that may be acceptable.

Cordially yours,

Robert A. Kehoe, M. D.

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