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Dr. A. E. Osterberg
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Dear Doctor Osterberg:-

Dr. Graham Edgar of the Ethyl Gasoline Corporation told me several days ago, when I was in his office, that you had told him of a case of lead encephalopathy which had been seen at the Mayo Clinic in which the presumable source of the lead was tetraethyl lead in gasoline, the patient having given a history of ingesting gasoline while siphoning from the tank of his car. I should appreciate it very much if you would let me know the facts in the matter and the basis of the diagnosis. I am enclosing a self-addressed, stamped envelope for your convenience.

Obviously it is not well to have any pre-conception about such a case, and I am perfectly willing to examine the clinical data and to be convinced by it, if it is adequate. On the other hand, I can not conceal my skepticism. The toxic dose of tetraethyl lead when ingested by experimental animals is fairly high, the reason being that tetraethyl lead is not readily absorbed from the alimentary tract. There have been cases of lead poisoning in human beings from the ingestion of concentrated Ethyl Fluid, and there have been fatal cases. In these instances the quantity actually absorbed into the body was quite considerable. A slight calculation of the quantity present in gasoline would serve to show that a prohibitive quantity of gasoline would have to be ingested before even a significant dosage of tetraethyl lead could be introduced into the body, much less absorbed. Thus 100 cc of gasoline with the highest concentration of tetraethyl lead which occurs on the market would contain only about 75 milligrams of lead as tetraethyl lead. This quantity is entirely insignificant when introduced orally, and could hardly be expected to produce even the slightest toxic symptoms. Perhaps some diarrhea would occur for a very short period of time on such a dosage, but this is the worst symptom that would be expected. On the other hand, this quantity of gasoline would be expected to produce acute symptoms both with respect to the alimentary tract and the central nervous system. The amount of nervous system involvement would

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depend upon the degree of irritation of the alimentary tract. Thus if retching and vomiting and acute diarrhea were to occur, the absorption of gasoline would probably be diminished and systemic effects might be limited. If conditions were such that absorption of the gasoline took place to any considerable degree, one would expect some central nervous system symptoms, varying from extreme irritability to profound drunkenness. In general these symptoms of gasoline intoxication disappear fairly promptly but cases have been described in which the nervous system symptoms persist for some little time. For the above reasons, I should be disposed to regard nervous system symptoms as attributable to gasoline rather than to lead, unless evidence of lead absorption was indeed very strong.

From the above you can see how curious I am about this case and how interested I am in knowing the facts as to the clinical course of the patient. If it is possible to oblige me in this respect, I should be very grateful to you.

Cordially yours,

RAK:is

Robert A. Kehoe, M.D.