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20th May, 1935.

Dr. R. A. Kehoe.

Dear Dr. Kehoe,

I am enclosing herewith copy of a letter we have received from the Italo-Americana, together with an exhaustive memorandum prepared by Prof. Datta, with reference to a workman named [redacted]

The story as I got it is as f [redacted] is a labourer engineer employed at the Italo's depot at Monopoli. In August of last year during a mixing operation the pump on the plant apparently stopped functioning, and the foreman in charge of the mixing operations very foolishly called in Michele, who happened to be passing, to carry out repairs to the pump. This work, apparently, occupied him for about one hour, after which he went about his normal duties in the depot. About half an hour later he was taking some readings on a tank and complained of feeling faint, and was then sent home. The man was apparently sick for sometime, and finally his local Doctor reported that he had Lead poisoning, this matter was not brought to our attention by the Italo until about February of this year, at which time the man was still in bad health.

We suggested that he be sent up immediately to see Prof. Datta and kept under his observation, since in my opinion it was then too late to send anyone from this country to examine him. It appears that Prof. Datta kept him under observation for some ten days and prepared the enclosed report, but as you will see from the Italo's letter, since returning to his home town he has again become sick.

Personally I should doubt very much whether this man has contracted Lead poisoning, since his total exposure to Lead occurred while examining the pump, and he would, therefore, not come in direct contact with concentrated Fluid. The mistake of course was made by the foreman in charge of the mixing plant, who had no right whatsoever to call in an outside man to examine the plant; however, this he did and we have now got to try and find out what exactly is the matter with this man Michele. I do not know whether you can assist us in any way from the report prepared by Prof. Datta, but should be extremely glad to have your remarks by return of post, since the matter, as you will appreciate, is quite an important one. I have not had an opportunity

of having the enclosed Italian memorandum translated, but I presume you will have no difficulty in getting this done yourself.

On this matter being reported to us I took it up very strongly with the Italo, since they should have let us know last August and not the beginning of this year.

Kindest personal regards,

Very sincerely yours,

G E N O V A

May 15th, 1935.

Via Assarotti, 40.

R. F. Hawkins.

Ethyl Export Corp.
Abford House,
Victoria,
London.

[redacted] = Labourer

Dear Sirs,

Following up the correspondence exchanged in respect to the above we are attaching herewith an exaustive memorandum prepared by Professor Lodovico Datta together with supporting analysis.

We very much regret handing you this memo in the original language but as the matter involves medical terms and phraseology we are not inclined to make a free translation of same as this might involve a misinterpretation of such pertinent facts which may prove of importance to the person who might study the matter.

It is suggested therefore that no attempt of translation be made on this side and the same should be passed on to your Doctor Kehoe. No doubt Doctor Kehoe would be able to confer with someone of the staff of the University of Cincinnati who has some knowledge of Italian. We might add that since [redacted] was placed under observation by Prof. Datta upon returning to his home town he has again shown symptoms of a blue ridge over his gums together with a general run down condition. It would seem that the local medico who was treating him is at a loss to explain this set back and he has inquired to be allowed to consult with Prof. Datta so that he might have the benefits of Prof. Datta's experienc and study of Vescia during the time that he was held under observation at the Savona Hospital.

In view of the lack of experience which our local medicos have had in treating this type case it will prove very interesting all around to secure Dr. Kehoe's opinion which we trust will not be forthcoming at too late a date.

Yours very truly,

(Signed R. F. Hawkins)

MEMORANDUM ON MEDICAL REPORT OF PROFESSOR DATTO

Case of [redacted]

In the absence of details of Doctor Manghisi's observations an interpretation of the initial illness is difficult.

I. The history of exposure is not adequate. One cannot be certain that the patient was actually exposed to tetraethyl lead. It is assumed by the physicians, apparently, that the chief exposure to lead occurred through inhalation. Inasmuch as the Ethyl Fluid in the pump was diluted with gasoline, one cannot be certain that actual inhalation of tetraethyl lead occurred. It was probably slight and perhaps negligible, since apparently only fifteen minutes elapsed during the repair. The question of skin contact with the material in the pump is not definitely settled. Such contact, if it occurred, was probably more significant than the inhalation, although if the mechanic washed up properly afterward very little absorption occurred. If the dilution was as much as 1 part of Fluid to 100 parts of gasoline, the absorption was almost certainly negligible. The statements of Drs. Manghisi and Datto as to the exposure, without detached reference to these points, are therefore inadequate and essentially valueless.

2. The description of symptoms and signs as quoted by Dr. Datto from Dr. Manghisi's report are not in accord with the clinical picture of tetraethyl lead intoxication. One cannot be certain as to the initial and subsequent symptomatology for they are not adequately differentiated in the report. It is quite certain, however, that [redacted] did not have a lead line on the gums within a few hours or days as a result of this exposure, for lead line does not occur under such circumstances. The statements

as to the temperature without reference to the manner of taking it, - that the pulse was lowered, without giving the figure, and that the blood pressure was more or less normal, are all without point. The urine is said to have shown lead by qualitative test. This is wholly without significance, and Dr. Datto is in gross error in interpreting it as a contributory evidence of intoxication.

The later examination of the patient by Dr. Datto is of value only in demonstrating the apparent absence of evidence of lead intoxication. It should be recognized, however, that by that time it would confidently be expected that all sequelae of tetraethyl lead poisoning would have vanished. No case of acute tetraethyl lead poisoning has been seen to persist with active symptoms or evidences of abnormal lead excretion through such a period.

3. The lead examinations reported by Dr. Datto are quite meaningless. Either the samples were contaminated with lead in their collection or the analytical methods were grossly inaccurate. The quantities of lead reported (0.19 to 0.21 mg. per liter of urine, and 0.78 mg. per gram of ashed feces) are impossibly high in relation to the time of exposure, 7 months prior. Rather than being within the normal limits, these figures correspond to those obtained on persons during active abnormal lead absorption. If they were correct they would indicate greater absorption than any we have ever seen, if the interval after exposure were taken into account. However, they can be disregarded, for such results never occur after such an interval.

It is equally valueless to attempt the interpretation of a lead line in relation to a single exposure to lead which

occurred seven months previous. Whether or not there was a line of pigmentation due to lead is a matter of interest but is probably unrelated to the single exposure in question. The dubious character of the conclusion from the test leaves this matter without weight.

4. The interpretation of the case made by Dr. Datto fails to take into account the questionable character of the exposure, the possibility of gasoline intoxication, (which might account for all the initial symptoms) and the important time factor. The symptoms of an intestinal disorder, (diarrhea and cramps) are not in accord with the clinical picture of tetraethyl lead absorption. Colic has never been seen in tetraethyl lead intoxication. In this connection the hypothesis that tetraethyl lead vapors may condense on the respiratory mucosa and be swallowed subsequently, as advanced by Dr. Datto, is theoretically unsound by reason of the volatility of tetraethyl lead, and is not in accord with the facts as observed in a series of actual cases in which adequate chemical data are available.

Summary.

The available data of the report do not justify the making of a diagnosis at this time, and it is doubtful if a diagnosis of the initial condition can now be made. I question the existence of lead intoxication in this man at any time, not only because of the questionable character of his exposure but also because of the apparently atypical symptomatology.

Robert A. Kehoe, M.D.