

Robert A. Kehoe M.D.
University of Cincinnati
Cincinnati
Ohio

Oct. 16 1955

Dear Doctor Kehoe :

I regret that your letter of September 16th which was promptly received and greatly appreciated was not answered immediately because of work which demanded out-of-town attention following the Diane Hurricane Floods here in New England. It happened that in the 1938 Hurricane, I found multiple blood parasites in the blood of waterfowl (blackduck) which included the dark red staining organism consistent with Bartonella. Since then I have tried to confirm those findings in waterfowl and other migratory game birds after S.E. Hurricanes, which called me away from other duties.

As to the 60 year old Russian auto repairman and painter, my work is as consultant in Clinical Pathology for physicians and surgeons. I was privileged to see that patient only twice, and was asked to do only Blood Morphologies and Urine Chemistry and Stained Sediments. Blood Chemistry, X-rays, and other necessary tests to complete the picture of Toxic Hydrocarbon Contact of long duration were never made in this Laboratory.

Both the patient and the patient's family, as I now understand it, became panicked and persuaded the referring physician to send the patient to a large General Hospital. The only report which has come to me, indirectly, is that there were some changes in the Common Duct of the Liver and that they were holding the patient for further studies.

Frankly, for the patient's sake I am very glad that he is in competent hands for both medical and surgical attention as may be needed. I do regret naturally, that the Hospital Staff have not shared their findings with one who gave time and effort to do the original research required for the opinion; "A very marked Irritation of both Liver and Kidney following prolonged contact and exposure to Toxic Hydrocarbon Compounds."

In 1935 I had the pleasure of knowing Barry Mac Cord when he was investigating Lead Poisoning for the Pittsburg Plate Glass Co. in Milwaukee and later I visited your good city and regret that I have never been called there again. Please accept my sincerest thanks for not only your interest but for all the information which you included in your long letter.

Most sincerely yours

.....*Willard C. Greene*.....

September 16, 1953

Dr. Willard C. Greene
Director, Medical Research
Medical Service Laboratories
475 Commonwealth Avenue
Boston, Mass.

Dear Doctor Greene:

Your letter of September 12 to Ethyl Corporation was referred to me for reply, and I hasten to do so because of the apparent seriousness of your patient's illness.

The problem with which you are presented will not be met by any information which is available on tetraethyl lead, and therefore I am not sending reprints relating to the toxicity of tetraethyl lead or to the clinical and toxicological description of tetraethyl lead poisoning. Actually nothing has been published by ourselves on this subject for some years, since the disease, which occurred in the early history of the tetraethyl lead industry, has not developed any new facets. Some cases of the characteristic type have occurred in connection with the peculiar situation that involves exposure to the sludge which accumulates over a long period of time in certain types of gasoline storage tanks (when men have cleaned and repaired certain of these tanks without adequate respiratory protection). This disease is always of one type, in that it is a primary disease of the central nervous system, which does not influence, in any important way, the liver or kidneys or any of the other viscera.

The important consideration, from the aspect of your patient, however, is that tetraethyl lead poisoning does not occur in consequence of the handling of leaded gasoline in the manner which you have described. This was shown to be highly improbable by the early experiments and clinical observations on exposed personnel (reprints of these investigations are no longer available, since the work was done many years ago; references can be supplied if you wish to have them), and has been amply demonstrated by the experience of the past thirty years. There has never been a case of tetraethyl lead poisoning among the handlers of leaded gasoline in this country, except in connection with the tank cleaning referred to above.

Now, as to the problem with which you are presented. It is difficult, as you probably know, to find out just what materials and solvents men handle in their use of cleaning agents, and paint and lacquer thinners. When you speak of liver and kidney involvement in this relationship, I think at once, naturally, of carbon tetrachloride, which, still, despite wide knowledge of its hazardous

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Dr. Willard C. Greene - (2) - September 16, 1955

properties, is used in many ways and places, especially in small industries and shops. Some of the other chlorinated hydrocarbons have the same properties in varying degree, and these may be used, unwittingly. In general the lacquer thinners in wide commercial use are relatively low in their toxicity, but again it is difficult to establish what has been used in a given situation at a given time.

Present day gasolines in this country do not have highly toxic additives in them in appreciable or dangerous concentrations, so far as our knowledge and experience go. Some of those in Europe, I am told, have up to 50 per cent (or even more in some instances) of benzol in them, but this is not true and is very unlikely to be true, here. Many of the high-octane gasolines, and some of the medium-octane gasolines, are fairly high in aromatic hydrocarbons, and a large proportion of them are special blends containing hydrocarbons produced by cracking processes, but while these are somewhat more toxic than ordinary straight-run gasolines of an earlier period, they would not be expected to cause liver or kidney damage.

I am unable to advise you as to the most likely background of your patient's illness, if it springs from his occupation, unless he may have had significant exposure to carbon tetrachloride. I can only tell you that (a) you should assure yourself as well as possible that the condition is not some more common disease, such as infectious hepatitis or some other hepato-biliary disease; or (2) if you conclude that it is of toxic origin, you should make careful and detailed inquiry (on the spot if possible) of the actual materials (solvents, lacquers, thinners, etc.) with which he has been working recently. Insofar as you have described this condition, it must be acute and of recent origin, if it is toxic in origin, and therefore it must have arisen from some very recent exposure.

If I can supply you with additional information, I shall be pleased to do so. This has seemed to me to be the means by which I could be most helpful.

Sincerely yours,

Robert A. Kehoe, M. D.

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ETHYL CORPORATION

100 PARK AVENUE BUILDING AT 41ST STREET

NEW YORK 17, N. Y.

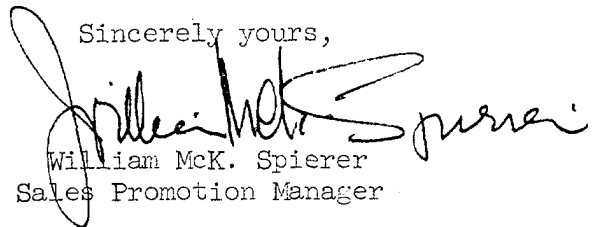
September 14, 1955

Dr. Robert Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine
Eden Avenue
Cincinnati 19, Ohio

Dear Dr. Kehoe:

The attached letter from Medical Service Laboratories, Boston, Massachusetts, just arrived at my desk, and I am forwarding this for your immediate attention and answer due to the urgency implied in the letter.

Sincerely yours,



William McK. Spierer
Sales Promotion Manager

WMS/mm
Att.

Via Air Mail

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MEDICAL SERVICE LABORATORIES
475 COMMONWEALTH AVENUE
BOSTON, MASS.

MEDICAL RESEARCH

WILLARD C. GREENE, DIRECTOR

The Ethyl Corporation
405 Lexington Ave.
New York
N.Y.

Sept. 12 1955

Gentlemen: Subject: Toxic Additive Compounds of Gasoline.

Kindly mail to me all recent Research Reports and other Literature which you have published relating to Tetra-ethyl-lead or other compounds of a toxic nature used in Gasoline.

We have under study a 60 year old Russian mechanic who for nearly 20 years has used various Gasolines to dissolve auto-body lacquers from his hands and cloths. At times he has also used lacquer-thinners of various manufacture for the same purpose.

At this time he presents a very severe Irritation of both the Liver and the Kidneys and is markedly Jaundiced. We consider him to be a very sick man.

Your prompt attention to our request will be indeed appreciated.

Yours very truly

Willard C. Greene
Director

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