

February 29, 1932

Mr. Joe V. Williams, Jr.,
Williams and Williams,
Hamilton National Bank Bldg.,
Chattanooga, Tenn.

Dear Mr. Williams:

Your letter concerning the differential diagnosis of "Jake" paralysis and lead poisoning very nearly contains its own answer. From your description of the case I would consider it almost certain that the man whom you discuss is suffering from "Jake" poisoning rather than lead poisoning.

The cases of "Jake" paralysis have uniformly shown a greater involvement of the lower extremities than of the upper, and for this very reason have simulated arsenic poisoning rather than lead. It is commonly known that, except in the case of children, paralysis of the lower extremities is rare in lead poisoning. There is an overwhelmingly greater frequency of involvement of the arms, the particular lesion which occurs most frequently being wrist drop which is a paralysis of the muscles which extend the hand.

The best proof in the elimination of the factor of lead would be to have data on the blood findings at the time of the paralysis, and to have analytical data on the excretion of lead in the urine and faeces in a period near the time of exposure. I take it from your letter that there is no such information, and unfortunately it will be impossible to obtain data at this date, which is practically a year later. Thus the evidence would have to rest upon clinical information, which should be of two types. First, one should attempt to show that the lesions present are more easily explained on the basis of Jamaica ginger than on the basis of lead absorption. This can be done by referring to clinical descriptions of the two conditions. A very satisfactory clinical description of lead poisoning can be found by referring to "Lead Absorption and Lead Poisoning", by Legge and Goadby, or, by referring to the work of Osler, "Principles and Practice of Medicine", 8th edition, published by D. Appleton and Company, New York, 1918. There are numerous other sources, but this I believe should be satisfactory for your purpose. Any good work on occupational diseases

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will also give you adequate descriptions of lead poisoning. Your next point should be the establishment of the facts as regard exposure. If the patient in question has symptoms which are more readily explained on the basis of his use of Jamaica ginger, you should be able to say, first, that he has actually consumed Jamaica ginger, second, that the lead exposures to which he was subjected were not a sort which produce lead poisoning with any degree of frequency. Knowing nothing of the plant in question, I do not know that this is a fact, but if it is true that cases of lead poisoning have not developed in the foundry, considerable proof should be made of this fact for a diagnosis of lead poisoning depends upon establishing at least two of the following three facts. One must be able to demonstrate the existence of significant exposure. This can be demonstrated only by analytical methods or by statistical methods. Thus, if a given occupation has been associated with cases of lead poisoning, it may be assumed that significant exposure is possible. If, now, the symptoms of illness are such as can be explained as the result of lead absorption, the diagnosis may reasonably be made. Unless one has evidence of significant exposure or characteristic symptoms, it is not possible to arrive at a diagnosis.

I trust this will give you some assistance. If there is any further information which I can give you I shall be glad to do so.

Very truly yours,

RAK:EJT

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