

REPOSITORY NARA-ATLANTA *copy*  
 COLLECTION OR RES+MED DIV MASSACHUSETTS GENERAL HOSPITAL  
 BOX No. #38 68A588 BOSTON  
 FOLDER G-72

January 14, 1943

Dr. Kenneth S. Cole  
 Metallurgical Laboratory  
 University of Chicago  
 Chicago, Ill.

Dear Dr. Cole:

Three selected "positives" at M.I.T. have furnished us with two samples of urine each, one collected immediately after rising in the morning, the other at 4 p.m., upon reporting to work. (I should have preferred samples taken a little later, during the working period, but this was not feasible). These samples, together with a few other selected positives and two samples of concentrated urine from two "normals" in our laboratory, were tested as usual, and analyzed for uric acid and metal as well.

There was a slight reduction in most of the unknowns, both resting and active, and in the "normals" as well, all tests being in a relatively narrow range of slight positivity. The uric acid concentrations were between 0.6 and 1.0 mg./cc. in all samples, with no striking differences between resting, active or normal samples. This range seems a little high, although little can be said without examining 24 hour specimens.

Rough tests for the metal indicate less than 0.1 mg./10 cc. Irvine will improve this sensitivity by about a hundred-fold, and he will have some figures soon, I hope.

Without going into a more detailed, extensive and troublesome search, there is little more that can be done on this problem, from this end. So far we have encountered nothing that might indicate any abnormal or pathological process in the men with whom we are concerned. The urinalyses performed have not indicated any abnormality. Further experimentation, therefore, would have to be based upon this fact, which means that the direction of such work is not self-evident.

I can suggest a few investigations which might be profitable, if more work is needed. One of these is the collection of 24-hour specimens (this is not an easy matter) for quantitative analyses. Another is to perform dilution tests on the men, which would not only be a test of kidney function but also of the "reducing substance". A third is the detailed examination of cells in urine as a test for kidney damage, since this is a likely consequence of metal inhalation. Finally, analyses of urine and feces for the metal, particularly after treatments which would increase the elimination of any deposited metal, would be to the point.

However, we are of the opinion that there is no immediate or apparent problem, and that further work will be of a long-term and experimental nature. Hence, we feel that I should move to Chicago at this time. Please let me know as soon as possible if this meets with your approval.

Sincerely yours,  
 (signed) Waldo E. Cohn

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