

S. O. was admitted to the hospital for care because of jaundice and abdominal pain of one week's duration, headache and dizziness occurring intermittently for three weeks, and easy fatigue, weakness, irritability and disturbance of bowel habits during the previous two months. At the onset of his symptoms the patient thought the speed-up in his work was responsible. He did not seek medical help until his fellow workers told him he looked yellow.

His medical history was without incident, and previous occupations exposed him to no known toxic materials.

Physical examination on admission revealed pronounced jaundice, especially intense in the scleras and on the abdomen. The patient was obviously uncomfortable but not acutely ill. There was a lead line about the inner margin of the bicuspid. There was an obvious tremor of the tongue. Otherwise there were no unusual findings.

The laboratory data collected are listed in table 2.

Sternal marrow showed a myeloid-erythroid ratio of 1:1 with abundant normoblasts and basophilic stippling of marrow cells, indicating a nonspecific marrow response to the destruction of red cells caused by lead intoxication. Special fragility studies done on this patient's blood

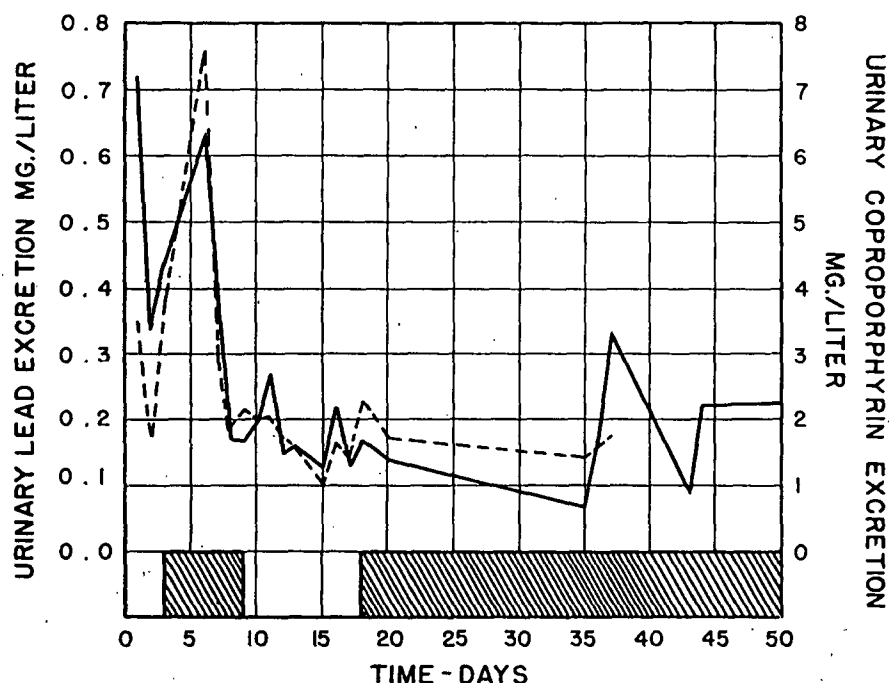


Chart 3 (case 3, patient S. O.).—The solid line represents urinary lead; the broken line, urinary coproporphyrin. The striped blocks represent oral sodium citrate therapy with a low calcium diet and are explained in the text.

by Dr. J. W. Harris, of the Thorndike Memorial Laboratory, revealed normal mechanical fragility. Further study by Dr. Harris showed the Coombs <sup>5a</sup> test to be negative; titer of cold agglutinins, 1:8; the indexes, slightly hypochromic. Tests of the patient's blood in salt solution done at the Massachusetts General Hospital showed the red blood cells to be of normal osmotic fragility at the time tested.

Roentgen study demonstrated no lung changes and no enlargement of liver or spleen.

The patient was given sodium citrate by mouth in doses of 5 Gm. four times a day and a low calcium diet. His subjective response was remarkable, and chart 3 indicates the renal excretion of lead and coproporphyrin which accompanied this program. After this therapy had been carried on for a week, it was omitted, and 24 hours later the patient complained of the headache and abdominal pain which he had reported on admission. It is apparent that during

5a. Coombs, R. R. A.; Mourant, A. E., and Race, R. R.: In-Vivo Isosensitisation of Red Cells in Babies with Haemolytic Disease, *Lancet* 1:264-266 (Feb. 23) 1946. Diamond, L. K., and Allen, F. H., Jr.: Medical Progress: Rh and Other Blood Groups, *New England J. Med.* 241:867-873 (Dec. 1) and 907-914 (Dec. 8) 1949.