

There was a slight rise in carbon dioxide-combining power from 55.1 to 63 volumes per cent as sodium citrate therapy was reinstituted. This returned to 56 volumes per cent three days later.

The urinary lead and urinary coproporphyrin levels and their relation to therapy are shown graphically in chart 1.

CASE 2.—C. A., a 22 year old battery plant employee, was admitted to the West Roxbury Veterans Administration Hospital on Oct. 18, 1949 because of muscular aches and pains of six days' duration and abdominal cramps of five days' duration. The patient had been working in the battery factory for three months. His work consisted of handling the lead plates after they were removed from a furnace and packing them together. Several weeks before admission he noted the onset of anorexia. Six days before admission he noted the onset of aches and pains in his arms and back, and later he noted pains in his legs and thighs. Five days before admission he had the onset of cramps in his abdomen. These were located in the region of the umbilicus. They increased in severity until they were disabling. The company physician made a diagnosis of lead poisoning, and he was referred to the hospital for therapy.

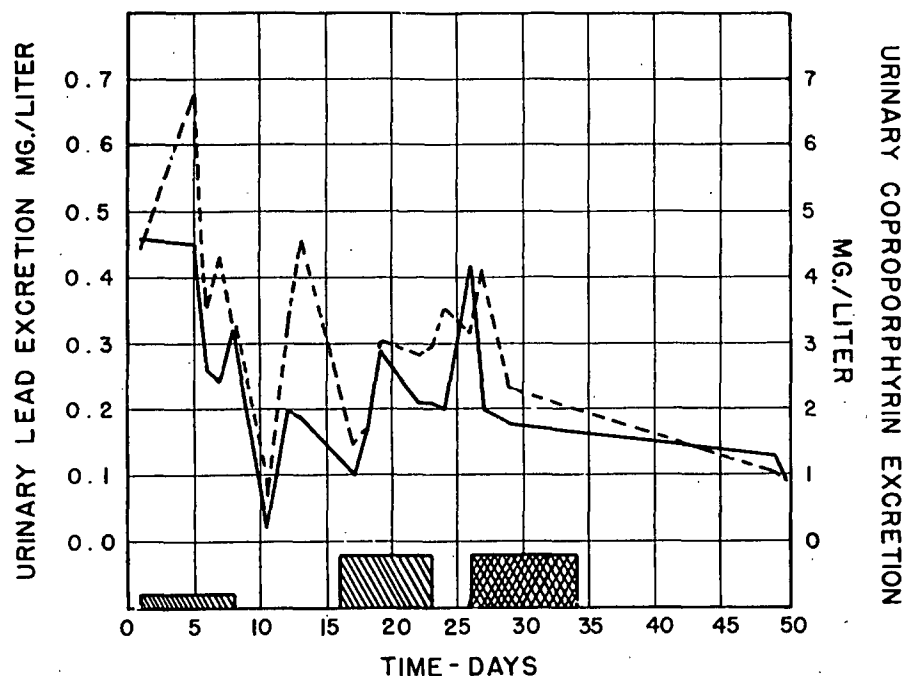


Chart 2 (case 2, patient C. A.).—The solid line represents urinary lead; the broken line, urinary coproporphyrin. The striped blocks represent oral sodium citrate therapy with a low calcium diet; the cross-hatched block, sodium bicarbonate with a low calcium diet. Further explanation is given in the text.

Physical examination revealed a young adult white man who was in no distress at the time of admission but soon thereafter was having severe abdominal cramps. He was slightly pale and yellow in appearance. His temperature was 98 F.; pulse rate, 72; blood pressure, 140/70. The teeth were in fair condition, and there was no lead line. There was an occasional high-pitched rhonchus over the left lung posteriorly. There was a grade 3 systolic murmur over the precordium with a split pulmonic second sound. The abdomen showed moderate generalized voluntary rigidity without localized tenderness. Liver, kidneys and spleen were not felt. There was perhaps slight weakness of dorsiflexion of both wrists, but there were no other neurological signs.

Laboratory Data.—The white blood cell count was 9,800, with polymorphonuclear granulocytes 68 per cent. Hemoglobin amounted to 8.5 Gm. per 100 cc. The red blood cells showed basophilic stippling (stippled cell count, 1.8 per cent). The urine had a specific gravity of 1.015, no albumin or sugar, 4 to 6 white blood cells per high power field, and a lead content of