During the month of March he was in great distress most of the time and continued to require oxygen practically all the time. In spite of this the results of the electrolyte studies and of chemical examinations of the blood remained within normal limits. He continually had in his blood from 400 to over 700 eosinophils per cubic millimeter.

During April and the first part of May his condition improved slightly, but he had constant severe dyspnea, severe paroxysms of coughing and required oxygen constantly, plus plenty of sedation. He had much stiffness, aching and pain through his arms, hands and legs. He was unable to use his fingers even to hold a paper.

On May 23 cortisone treatment was started, with 100 mg. of the acetate being given daily. There was no spectacular improvement, but he was able to use his fingers better and was able to hold a book in his hand. He required less oxygen and somewhat less sedation while under this treatment. His weight, which had dropped to a low of 134 lb. (61 Kg.), gradually went up to 140 lb. (63.5 Kg.). It was felt that clinically his chest was somewhat clearer, and a roentgenogram taken at this time did show slight evidence of improvement.

Early in June acne and a typical moon facies began to develop, and on June 12 there was evidence of beginning fluid retention and the weight had increased to 150 lb. (68 Kg.). Because of this, the administration of cortisone was discontinued. The signs of overdosage disappeared rather rapidly.

During the rest of June and July he gradually became worse again, and on August 12 ACTH treatment was started with routine doses.

By the first of September there was only scant improvement, but by the middle of September he seemed to be definitely better. He was able to move around well in bed, was allowed to

TABLE 1.—*Blood Levels* *

Date	Sodium	Potassium	Chloride	CO_2	PH	NPN
12/ 1/50	137	5.2	94	73	....	43
12/26/50	136	5.6	86	80.5	7.35	32
1/ 9/51	143	5.7	68	95.3	7.3	..
1/28/51	138	5.3	101	87.9	7.28	42
2/ 6/51	140	5.4	99	97.1	7.25	44

* All values are expressed as milliequivalents except those for carbon dioxide, which are expressed as volumes per cent.

sit on the edge of his bed each day and was using less oxygen. Unfortunately, another respiratory infection developed, September 25, which persisted for about two weeks and then cleared up very gradually.

Through the months of October and November his course was complicated by the continual recurrence of minor acute respiratory infections, and his ACTH dosages did not seem to change the course of these as far as we could determine, although he did not show a temperature above 100.6 F. at any time.

The early part of December he was showing signs of ACTH overdosage. Acne was developing again, the moon facies was more striking, and there was some increase in tissue fluids. While the serum electrolytes did not show any shift of note, the urinary excretion tests showed a tendency toward conservation of sodium and excretion of potassium. ACTH was accordingly gradually omitted. A typical ACTH diuresis followed omission of the drug.

The patient was fairly comfortable over the Christmas holidays until the evening of December 29 when severe paroxysmal dyspnea and cough suddenly developed, and his condition became poor. However, with the help of supportive measures he improved, and cortisone therapy was started again, 300 mg. being given the first day, 200 mg. the second day and 100 mg. daily thereafter until January 4, when the dosage was reduced to 50 mg. daily; this dosage was continued for several days. During this interval, his diet was weighed daily for sodium, potassium (table) and protein contents, and caloric determinations were made daily. No significant correlation was noted between the intake and the output of electrolytes as determined by urinary electrolyte excretion tests, which were done every 24 hours. Serum sodium, potassium, chloride and uric acid levels were also determined at frequent intervals, as were the nonprotein nitrogen, sugar carbon dioxide and hydrogen ion concentration of the blood (tables 1 and 3).