

followed the second injection. Because of this reaction it was decided to discontinue the streptomycin. The patient had received a total of 1 million units.

During the night of July 19 the patient coughed up copious sputum, which previously had been very tenacious and difficult to raise. When seen on the morning of July 20 she appeared decidedly improved. Her temperature had dropped from 102.8 to 99.6 F., ranged from 98.6 to 99.6 for another eight days and then dropped to normal, where it remained for the rest of her stay in the hospital.

X-ray of the chest taken Aug. 8, 1945 showed complete resolution of the pneumonia.

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ALLERGY TO INSULIN ASSOCIATED WITH INFECTION

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The occurrence of generalized urticarial reactions following the administration of insulin to diabetic patients has occasionally been observed in patients who, having once taken insulin, had then stopped it for a considerable period and subsequently were forced to resume insulin. In such patients it has been noted that at times insulin resistance has been present together with the sensitivity to insulin, and in a number of instances the association of infection at the time of the urticarial reaction has raised the question whether infection itself in some way stimulated the allergic response so that antibodies to insulin occurred.

A housewife aged 44 at the onset of diabetes in January 1933 first received insulin in June 1933. She gave up insulin subsequent to her hospital treatment and had not taken insulin for a considerable time when, about July 20, 1943, she developed an infection about a callus on one toe. On August 1 the urine was sugar free according to her doctor. The next day, however, the urine showed an orange test. She began insulin, taking 10 units three times a day. She promptly showed a generalized urticarial reaction, which reaction occurred when the insulin of three different manufacturers was used. She entered the Deaconess Hospital August 5 because of gangrene of the foot, fever and resistance to insulin. Her blood carbon dioxide was 37 volumes per cent and the blood sugar was 303 mg. The urine contained 2.4 per cent of sugar and 3 plus diacetic acid. During the next four days the urine continued to show sugar such that in twenty-four hours, on August 8, 153 Gm. of sugar was excreted in the urine and on the morning of August 9 the carbon dioxide of the blood was 28 in spite of the fact that she had received on the preceding day 120 units of insulin. During this time generalized large urticarial reactions continued. On August 10 a right thigh amputation was done. On that day she received a total of 250 units of insulin. Almost immediately following the amputation of the infected foot the diacetic acid disappeared and the urticarial reactions ceased. A rapid reduction in insulin requirement occurred so that the urine was sugar free on August 13 and continued so up to the time of discharge on August 29. The blood sugar values came down to normal by August 18. She left the hospital with a blood sugar of 92 mg., taking 16 units of protamine zinc insulin once a day.

Through the courtesy of Dr. Jacob Lerman of the Massachusetts General Hospital studies of her blood showed no excessive insulin precipitins, but a strongly positive test for antibodies by the passive transfer method was present. A subsequent examination on August 14, at the time the infected leg had been removed and the insulin resistance was disappearing, again showed no precipitins but a much less positive transfer test.

This seems to support the idea that the presence of acute infection had much to do with insulin resistance and the intensification of the allergy to insulin.

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From the New England Deaconess Hospital.

A CASE OF POLIOMYELITIS WITH RESPIRATORY PARALYSIS IN RUMANIA

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The patient under discussion was kept alive for fifty-two days by manual artificial respiration, which as far as I know is a record, as well as a tribute to the courage and resourcefulness of the physician, the patient and her family, all Rumanians and having their first contact with poliomyelitis. Furthermore no literature or other physicians experienced in this malady were available for assistance, as poliomyelitis has not been common in Rumania.

The report also will illustrate some of the difficulties the uninitiated may have in introducing and caring for a totally paralyzed patient in an "iron lung," and the improvements made by trial and error to overcome those difficulties until success was obtained. Likewise a modification will be suggested for future models of artificial respirators.

S. N., a schoolgirl aged 17 years, was taken ill on Sept. 10, 1945. The onset was sudden, with headache, vomiting and a temperature of 99.5 F. (37.5 C.). The vomiting persisted for two days and was severe enough to cause the abdomen to be suspected as the site of the disease.

On September 12 the neck became rigid, the temperature rose to 102.2 F. (39 C.) and the patient became stuporous. The spleen was palpable that day. Vomiting ceased.

Blood examination showed 13,000 leukocytes, with polymorphonuclears 80 per cent, eosinophils 1 per cent, basophils 0, monocytes 3 per cent, lymphocytes 16 per cent, myeloblasts 0.

A lumbar puncture was done. The pressure of the spinal fluid was not measured but its examination showed the fluid turbid, cell count 960 per cubic centimeter, glucose 87 (normal 48-60), albumin 50 (normal 20-22), Pandy test positive, Weichbrodt test positive, bacteria absent.

September 13 the patient became completely paralyzed except for the muscles of the face, tongue and eyes. All muscles of respiration, all four extremities, the abdomen and the neck were paralyzed. There was some dysphagia. Urination and defecation remained under control. Manual artificial respiration was begun that day by the patient's uncle, who is a physician, and six domestic servants were trained to carry on this procedure and did so continuously until the arrival of the "iron lung" fifty-two days later.

September 17 a cisternal puncture was made and the spinal fluid examined. The pressure was not measured. The fluid was slightly turbid. The cell count revealed 42 per cubic centimeter, polymorphonuclears 3 per cent, lymphocytes 97 per cent, Pandy test negative, Weichbrodt test negative, glucose 89, albumin 15.

On September 19 another lumbar puncture was performed. The fluid pressure was not measured. The fluid was clear. The cell count was 8, polymorphonuclears numbered 52 per cent, lymphocytes 48 per cent. The Pandy test, Weichbrodt test, glucose and albumin were normal.

The fever persisted for twelve days, reaching a maximum of 102.5 F. (39.2 C.). At the end of that time the temperature returned to normal and has remained normal ever since.

The patient remembers nothing of the first three weeks of her illness but despite a stupor always responded to various stimuli.

The severe headaches disappeared after three weeks, but headaches have recurred from time to time and usually have been associated with poor oxygenation due to inadequate artificial respiration. It is interesting to note that, now she has become used to the increased aeration of the "iron lung," her tolerance for manual artificial respiration has decreased and she complains of lack of sufficient air when out of the "lung."

On November 3 she was placed in the mechanical artificial respirator after difficulties described in another paragraph.

On December 5 she complained of severe pain in her left flank and groin and was nauseated. An examination of the