

General Hospital under my care, suffering from diabetes, offered me the opportunity. His age was 31, and he had been ill some four months before his admission. By trade he was an iron caster, and up to this attack of illness he had been a healthy man, and had never suffered from rheumatism. He was married, and had several strong, healthy children. On a mixed diet, he passed during the first week of his stay in hospital an average of 180 ounces of urine daily, containing 49 grains of sugar in the ounces. On a strictly animal diet, continued two weeks, the sugar fell to an average of 36 grains an ounce, and the urine passed to an average of 116 ounce daily. The skin was dry and branny. The sugar excretion remained pretty stationary on strict diet, but lung-symptoms began to manifest themselves, and steadily increased.

On March 8th, I ordered the patient fifteen-minim doses of lactic acid dissolved in an ounce of water four times. The dose was doubled the next morning, and in the afternoon he complained of acute pains in his joints, and flying pains about his limbs. In the evening, as these pains had increased, the medicine was discontinued by order of the resident medical assistant.

On March 10th, no lactic acid mixture was taken, and the pains gradually ceased.

On March 11th, I saw the case; and regarding the occurrence of the joint-pains as a mere coincidence, repeated the lactic acid in fifteen-minim doses three times a day. On the evening of the 12th, he again felt pains in his joints; and on the morning of the 13th, "the small joints of the fingers of both hands, the wrists, and, in a less degree, the elbows," were noted by the resident medical assistant Mr. E. A. Elkington, to have become "red, swollen, and painful." On my visit I was much struck by the appearance of these joints, which were typical specimens of acute rheumatic arthritis. In the evening, both wrists, the small joints of the fingers, and the elbows were all red, hot, swollen, tender, and painful. The heart-sounds were clear. The temperature in the morning was 100; in the evening 101 F. He had moderate perspiration. Pulse 90, soft and full. The joints were wrapped in cotton-wool, and the lactic acid was discontinued.

On March 14th, in the morning, there was a decided improvement in all the joints; the swelling had much diminished, but heat and pain were still present. Temperature 100; pulse 84. In the evening, all the small joints of the fingers were much better. The wrists were still affected, and he complained of a good deal of pain in the knees, which had hitherto escaped. The heart-sounds were clear. Pulse 90. Temperature 100.8.

On March 15th, the joints were better. The temperature in the morning was 98.6; in the evening, 99.4.

On March 16th, he said that his arms were quite well; his legs nearly so. He had slept much better.

On March 17th, all pains in the joints were gone. Temperature 98.2. Pulse 72.

During the next twelve days, no lactic acid was administered. The case was put clearly to the man,

and, as he had felt benefit from the acid mixture and had passed less urine during its use, he elected to run the risk of acute rheumatism. Accordingly, on March 29th, I prescribed seventy-five minims of lactic acid dissolved in twenty ounces of water. This was to be taken as a drink in the course of twenty-four hours. During the next five days, no rheumatic symptoms appeared. The pulse rose twelve beats on and after the third day; the temperature, which had been previously elevated by the long complications, showed no marked change, but on the fourth and fifth days remained steadily at 99°, instead of varying as it had done for some time previously. On the morning of the sixth day (April 4th), he complained of having had a bad night from joint-pains, which had disturbed him very much, and which came on suddenly after midnight. On examination, the metacarpo-phalangeal and first phalangeal articulations of the first and second fingers of each hand were found to be red, swollen, hot, and painful; the slightest movement aggravated the pain, and he could not on this account pick up anything with his fingers. The pulse was 102. The temperature, which on the previous evening had been 98.2, had risen to 99.4. The heart-sounds were clear. The acid mixture was stopped, and in the evening the pain in the knuckles was less, and the redness had diminished; they were, however, still stiff. No other joints were affected. Temperature 99.2.

April 5th. His hands were much better, and of his own accord, he resumed his lactic acid drink, and took about thirty minims of acid in the course of the forenoon. In the evening the pains had returned in the knuckles, which were swollen, red, and tender. He discontinued the acid, had a fair night, and on the morning of the 6th, found his hands free from pain. He again resumed the lactic acid, and took up to 4 p.m. the remainder of the bottle, containing about forty-five minims of acid. In the evening at 9 p.m., the pain and swelling had returned in his knuckles, and his left wrist was also affected. He now gave up the acid for two days, and the joints-symptoms gradually disappeared.

The acid drink was resumed on the 9th, and continued to the 13th, but he only took about thirty-five minims of acid a day. He experienced no inconvenience except flying pains about his joints, till the night of April 13th, when he was disturbed by severe pain in the right wrist, which was found in the morning to be red, swollen, painful, and hot, and was a typical specimen of rheumatic joint. Pulse 98, full and soft. There was copious perspiration, of acid reaction. The heart-sounds were clear. The elbows and knees became painful and stiff the next day. The joints were all wrapped in cotton-wool as before; and in the course of four days nothing remained except a little stiffness in the right wrist. After a week's interval, the acid was again taken, with like results.

The man now had gained so much experience as to the first indications of a coming attack in his joints, that he was allowed discretionary power as to the time and manner of taking the mixture. By