

and urticarial types, and for two days the patient was in a very distressing condition on account of the intense itching. As soon as the rash appeared, however, I discontinued the serum and, though it caused a good deal of distress at the time, it began to disappear on the third day, and by the fifth day was practically gone. Regarding the method of administration of the serum, there are, as you are all aware, five different methods of giving it, viz.:

1. Subcutaneous.
2. Intravenous.
3. Intraneural.
4. Subdural.
5. Intracerebral.

I started with the subcutaneous method, giving the serum into the subcutaneous tissue of the abdomen, and as the patient's condition did not grow any worse I continued to the end with the subcutaneous method. Every method of administration has its own supporters, but in whatever way it may be given I think it is pretty generally conceded that its chief influence is exerted on that part of the toxin which is in the circulation. The affinity of the toxin for the nerve cells is so great that, unfortunately, the serum has not much effect on this part, irrespective of the method of administration. Had the patient grown worse under the subcutaneous method I would have given it subdurally.

4. *Medical Treatment.*

During the acute stage of the disease, when the nervous excitability was marked, I gave him 30 grs. of chloral hydrate three times a day. This constituted the only medical treatment until after the serum was stopped. Though at that time there was still marked spasm of nearly all the muscles of the body, the muscles of mastication had relaxed sufficiently to get a small tablet in his mouth, and, according to the suggestion of Sajous in his work on the internal secretions, I gave five grains of thyroid extract three times a day, and I believe it had some effect, for when the patient was without it for a couple of days he complained more of the stiffness and seemed more comfortable after giving it again. I continued the thyroid extract for ten days, and by that time he could eat solid food and could walk about a little.

I saw the patient again a week ago, *i.e.*, about four and one-half months after the injury, and though he is quite well and does light work around the farm, he says there is still a slight sense of stiffness in all the muscles of the body, but not sufficient to interfere with his comfort to any extent.