

begins to rise; or, on the contrary, when the temperature is not reduced to the normal, to continue the poultice until the reduction takes place by the renewal of fresh applications.

For the purpose of illustrating more clearly the action of this remedy as an antipyretic, I will here cite the history of one or two cases:

CASE I.—Mrs. P., a robust and fleshy young married woman, with two children, in the month of September, eighteen years ago, was attacked with typhoid fever of a very violent grade. At a very early period of her case the symptoms were of an alarming character.

On the tenth day of the attack, the pulse was 130; the temperature $105\frac{1}{2}^{\circ}$; almost constant delirium; tympanitis; diarrhoea; dry tongue. This case occurred before the introduction of the modern coal tar antipyretics, consequently I had to depend on the use of quinine and cool sponging. My remedies failed utterly to reduce the temperature a single degree, and it finally reached 106° . My case had now reached a point when death must ensue if relief failed to come. I will note the fact here also that she suffered from constant insomnia, restlessness, and jactitation. This description presents a picture of a case with about as little to base a hope on as we usually meet. In this condition of affairs, the cold poultice suggested itself to my judgment as holding some hope of good results. The entire chest and abdomen were covered promptly with one, and never did a remedy act more gratefully. In fifteen hours the temperature was down to $101\frac{1}{2}^{\circ}$; the pulse 110; the patient was in a pleasant sleep and perspired freely, and the mind comparatively clear. The poultice, when the temperature reached to near the normal point, was removed, and re-applied when it began to rise. With the aid of quinine, some intestinal antiseptics and nourishment, this patient, after an illness of five weeks, made a good recovery.

I present these suggestions of a remedy here simply as an addition to our means of reducing high grades of temperature, and not as a sole means, but one that has in past years served such a good purpose, and still continues to do so. Whatever remedy is capable of reducing the temperature in fever from three to five degrees, without disturbing the equilibrium of the economy, without detriment to the vital processes of nutrition and metabolism, or in any way agitating the nervous centres, is worthy of our adoption.

Now, relative to a rational explanation of the action of this agent, it can be said that, in the first place, the heat is directly subtracted from the great central organs—the heat centres of the system—and not directly from the extremities. In the first place, from a heart that is being crushed down from hyperpyrexia; and,

furthermore, the stomach, liver, spleen and intestines, and even kidneys. But this is by no means all. The great sympathetic and vaso-motor systems are being paralyzed by the ravages of high temperature, and we see in the furious rapidity of the action of the heart that the balance of inhibitory power is lost. This agent relieves the great sympathetic system of the terrible burden which it is carrying and crushing its life out, and in that way restores the equilibrium of health. Cold applied in this way over the great central organs of the body is not a depressant of cardiac and vaso-motor action, but appears to be one of the most certain and invigorating cardiac and vaso-motor tonics that we possess in fever, because it acts as a direct stimulus to the nerves of inhibition. We can readily see or imagine the action of an agent on the general system which subtracts in a few hours four or five degrees of temperature from the great gangliodic system of the abdomen, when the temperature ranges from 103° to 105° . A temperature of 105° is destructive to the organic tissues of the heart and ganglionic systems. The organic structures of these organs undergo rapid degeneration and softening from hyperpyrexia, and hence the absolute necessity of maintaining the temperature of the heart and ganglionic systems at a moderate degree.

In cases of fever, with a dangerous degree of hyperpyrexia, say, 106° or 106.5° , with delirium, insomnia, constant restlessness, contracted pupil, scanty, high-colored urine, these symptoms clearly indicate that this intense degree of temperature is exerting a destructive influence on the great nervous centres—the brain and spinal cord—and, if prompt measures are not taken to reduce this hyperpyrexia to a safe degree, the brain and spinal cord will be overwhelmed in hopeless ruin. This can only be accomplished either by the cold bath, internal antipyretics, or the cold poultice. In certain cases in my practice, the latter measure, applied over the entire spinal column, from the cervical vertebrae to the sacrum, with these symptoms, has exerted a marvellous effect in relieving the nervous system, in subduing inordinate nervous erethism, relieving delirium and restlessness, and in promoting sleep.

In a case of this kind, during a relapse from a four weeks' illness, where the temperature approached 106° , pulse 130, utter sleeplessness and constant restlessness, a long poultice, at 70° , was applied from above the cardiac region to the pubis; another, at the same temperature, ten inches wide, was applied over the nucha to the sacrum, and the head having been shaved, an ice bag was applied over the head. In two hours there was a reduction of two degrees. In twelve hours, a reduction of five degrees, with copious warm perspiration, with the result of refreshing