THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XLIV.

WEDNESDAY, JUNE 4, 1851.

No. 18.

CASE OF POISONING BY SULPHURETTED HYDROGEN GAS.

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ON Tuesday, the 22d of April, Mr. Hugh Ferguson, an old and highly respected citizen of Louisville, and a German laborer in his employment, were severely poisoned by sulphuretted hydrogen gas; and as the subject is one of some interest, both in the deadly character of the poisonous agent, and the infrequency of poisoning from it, I purpose to give the details of Mr. Ferguson's case, the one in which I was employed.

On the 22d of April the German laborer, referred to above, had finished a pit alongside of an old privy pit, and his object was to empty the old pit into the new one. He had made two scaffolds in the pit, one about eight feet from the ground, the other about three feet. After tapping the wall of the old pit, the laborer threw into it twelve buckets of water, in order to increase the fluidity of the mass, so as to make it run easily. This, however, increased the pressure, and forced out the sulphuretted hydrogen gas. About 6 o'clock, Messrs. Ferguson and Atkinson being present, the laborer descended to the lower platform in the new pit, in order to be sure that his work was accomplished. Soon after reaching the platform, he was so overpowered by the deadly gas, that he sank down, without being able to make any outcry. Mr. Ferguson thought the man had fainted, and remarked that he was too old and feeble to go down into the pit, but added, that he could not see the poor fellow in that situation without giving him assistance. He accordingly descended, unsuspecting of the noxious agent he was about to meet. Mr. Atkinson also partially descended the ladder, but Mr. Ferguson turned deadly sick, and attempted to get back to the ladder. Mr. Atkinson reached out his hand to assist him, but the overpowering gas had performed its work too effectually, and Mr. Ferguson fell, and drew Mr. Atkinson into the pit. The latter had presence of mind enough to hold his breath, managed to climb the ladder, and was thus able to give the alarm. If Mr. A. had not escaped, all three of the victims must have died, because their condition would have been unknown, probably for hours.

As soon as assistance reached the place, water was freely thrown down into the pit, under the vain and fallacious hope, I suppose, that it might exert an influence on this occasion, on sulphuretted hydrogen gas, which no one ever knew it to exert on any former occasion. Water has no power of destruction over this gas, and its use on this occasion was a

serious evil—it aided in disengaging more gas by its pressure—it buoyed up the gas, and thoroughly chilled the two victims, from whose surfaces nearly all the blood had already retreated. What can more effectually show the value of sanitary studies, than this case? In London and Paris, where science guides all these matters, sulphuretted hydrogen gas is destroyed by fire. If a few pans of fire had been let down into this pit, the noxious gas would have been burned out in a few minutes, and the poisoned men would have had atmospheric air to breathe, by which they would soon have been resuscitated.

No one could venture down into the pit, a fact which shows the folly of the torrents of water that were slushed upon the dying men. Ropes were procured from a neighboring pump-maker, and after a great loss of time, the two men were caught by the hooks, and drawn up to the ground apparently dead.

I reached the place soon after the sufferers were drawn out. I found the case in the hands of Dr. Lyle, and joined him in the treatment. The case presented a group of symptoms, in which I saw no gleam of hope. The entire surface of the body was cold, and apparently dead—the breathing, if the spasmodic attempts after air, that were made by the sufferer, can properly be called breathing, seemed to carry no air to the lungs. Mustard had been applied, but it produced no effect, and ammonia to the nose gave no sign of its presence. It would be difficult to exaggerate the gravity of the symptoms. The skin was universally cold, as cold as death itself could make it; the spasmodic attempts to get air, already described; a pulse sometimes manifesting itself in a feeble flutter, and at other times altogether absent, and this state of things persisted in fully for three hours, and to a considerable extent for six hours, constituted one of the most serious forms of imminent danger I have ever seen.

Immediately after the men were drawn from the pit, they were taken to a porch in the street for the purpose of giving them fresh air. When I reached the patient, an immense crowd was in the street, and porch, and all over the steps of the latter, and it was difficult to secure the sufferers a supply of air. The mustard which had been applied to the skin, produced no effect, and we determined to remove our patient to a neighboring house. Numbers of persons in the vicinity offered their houses, and all that might be needed for the use of the sufferers, and the contest seemed to be who should have both the victims. We conveyed Mr. Ferguson to the house of Mr. Atkinson, and the German was taken to the opposite house—Jas. I. Lemon's.

The most urgent demand in Mr. Ferguson's case was the removal of his wet clothes, in order to have the benefit of a warm dry bed; and after that was secured, all our means were directed to the relief of the asphyxia. Spasms now supervened, and were very severe for some time. We depended on external applications of heat, mustard sinapisms, Granville's lotion to the back, and injections, per rectum, of brandy, and in one of them we used a teaspoonful of chloroform in combination with the brandy. About this time Dr. Lewis Rogers joined Dr. Lyle and myself in the case.

From the first of the case, I was apprehensive of apoplexy, and as the patient emerged from the asphyxia, a stertorous breathing, a more profound coma than there should have been when the asphyxia was passing off, the condition of the pupils, and rigidity of the muscles of the jaw, all indicated that our worst apprehensions were about to be realized. But we were prepared, and the approaching danger was as promptly and vigorously met as the circumstances of the patient would warrant. Nothing was done at hap-hazard, and we patiently bided our time. As the re-action began, cold applications were made to the head; when these failed, we resorted to leeches; and when they failed in doing all we hoped for from their use, we administered three drops of croton oil, applied blisters to the ankles, wrists and back, and finally opened a vein in the arm, and drew off a quantity of the blackest blood I ever saw.

Between 1 and 2 o'clock, A. M., we retired from the house, determining among ourselves that we could wait several hours for the effect of the active treatment our patient had undergone. The arrangement was that I should return to the case at 4 o'clock. I slept two hours, and then visited the patient again, and found our most sanguine hopes realized. The breathing was calm, the pulse full and well sustained, the extremities warm, and while I was in the room the patient spake for the first time. The apoplectic symptoms were entirely gone; the croton oil had acted well, the blisters drew admirably, and in the course of the morning a distressing strangury manifested itself, but it was relieved by sprinkling powdered camphor on one of the blisters, and by the use of demulcent drinks. We enjoined rest, and in the afternoon the patient was removed to the house of one of his daughters.

Throughout the asphyxia I noticed that the left side was much more lifeless than the right, and the blisters on the right ankle and wrist proved to be much sorer and deeper than those of the left ankle and wrist.

These are the main features of this interesting case. From the point where I drop the details there was no occurrence that demands any special notice. The patient rapidly recovered, and on Friday was able to walk about. As in cases of concussion of the brain, in this there is a complete obliteration of all memory of the matters immediately preceding the disaster. Mr. Ferguson is unable to remember that he was about the pit, and can recollect nothing of the descent and fall of the German laborer. But in all other respects his mind and his memory are as perfect as ever they were.

This case is important as a caution to others who may have anything to do with the emptying of privy pits, cesspools, or who may be in the neighborhood of reservoirs of sulphuretted hydrogen gas. Where its existence may be reasonably suspected, the truth may be easily discerned by letting down fire into the suspected air. If flames spread around the fire, it is an evidence of the existence of the deleterious gas, and the fire not only reveals the fact, but destroys the poison.

The recovery of Mr. Ferguson was a great triumph of medical science. Throughout the whole of what a Spaniard expressively calls a *nôche triste*, there was a regular game of chess between death and medical

art; each move on one side called for an opposing move on the other, and the ultimate point to checkmate death governed every move on the part of the physicians. The triumph was complete at daylight. Mr. Ferguson is advanced in life, somewhat feeble in health, but remarkable for his regular, abstemious and prudent habits. But taking his age and debility into consideration, in connection with the violent character of the poison he inhaled, his escape from death is one of the most remarkable occurrences I have ever met in the practice of medicine.—*Western Journal of Medicine and Surgery*.

CASE OF PERMANENT STRICTURE OF THE *ŒSOPHAGUS*.

BY PAUL F. EVE, M.D., OF AUGUSTA, GA.

DURING the course of lectures in the University of Louisville, Ky., I was invited by Professor Rogers to see, with him, a case of *dysphagia constricta*, which had been under his care for a few weeks. The patient was a mulatto boy, aged 3 years, who, some four months previously, had swallowed, through inadvertence, a portion of caustic potash. In its deliquescent state he had taken it for candy. The act was immediately followed by alarming symptoms, but which, unfortunately, were attempted to be combated exclusively by domestic remedies.

When Dr. Rogers first saw the case, the dysphagia was so great that fluids could with difficulty be swallowed; and a bougie was now at once arrested in the *œsophagus* by an apparently permanent stricture. Various attempts were subsequently made to reach the stomach, but without success. We were not certain that any nourishment ever entered it. The patient's constant cry was for water, which he would swallow down to the obstruction, retain it a few minutes, and then reject it from his mouth. He rapidly emaciated. Ice-cream, milk and water, beef-tea, &c., were recommended; and, if none of these could be gotten down, nutritious enemata to sustain the system.

The stricture was situated six inches from the dental arches—below the most usual seat for such affections—which is the connection of the pharynx with the *œsophagus*.

The middle of December last, this patient becoming daily more feeble, was presented to the class at the college clinic, with the view to an operation, should one be deemed advisable. He was now reduced almost to skin and bones; neither could his pulse be discerned at the wrists. It was not until he arrived at this low condition that his master consented to consider the question of *œsophagotomy*. It was decided in consultation not to operate, and the death of the patient was predicted as probable during the first cold spell of weather.

About ten days after this, a post-mortem revealed a permanent contraction with thickening of the tissues of the *œsophagus*—the diameter of the strictured portion being reduced to about a line for an inch and a quarter, and which was also quite tortuous in its course. The stomach was contracted and reduced to a very small capacity; but the ileum, to our surprise, was largely distended with *fæces*.