

INHALATION OF SULPHURIC ETHER, WITH PRACTICAL REMARKS.

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THE vapor of sulphuric ether has recently been administered, by a gentleman duly qualified, to two of my patients who were about to undergo surgical operations.

The first was for the removal of a fatty tumor, being about the size of a large turkey's egg, and situated on the left side over the angle of the ribs. The patient, a farmer, 40 years of age, was possessed of a tolerably good constitution, of a sanguine temperament, and of a sensitive habit. On the inhalation of the letheon for two or three minutes, he became under its influence. I immediately made two semi-circular incisions deep into the cellular tissue, on the sides of the tumor in an oblique direction with the body, then raised the tumor with my left hand and proceeded to dissect it from its lodgement, when it was announced that he had lost the influence of the ether. However, the operation was so nearly completed that I proceeded, and in about one fourth of a minute the whole thing was excised. The duration of the cutting part of the operation did not exceed four minutes. In a few minutes he recovered his consciousness, and stated that he knew all the time what we were doing, and said, "*I experienced little or no pain*" till some one said "he is out of its influence," after this, said he, "*it hurt like sixty.*" Only a small quantity of blood was lost; no artery required ligature. After waiting a short time, the wound was drawn together with adhesive strips, and he soon started for home, a distance of ten or twelve miles. From the operation he did not appear to experience any shock whatever. The operation was performed at Dr. J. Rice's, Bridport, in the presence of Drs. Haile and Goodrich, Crownpoint, N. Y., who had accompanied the patient, Mr. Nichols, for the purpose of witnessing the effect of the ethereal vapor.

On the 6th instant, assisted by Dr. H. A. Smith, of New Haven, and my son, Charles Linnæus, I removed a carcinomatous breast from a lady 50 years of age. Nine years since she first discovered a tumor in her right breast, somewhat below the nipple and towards the axilla. This had gradually enlarged till it involved full one half of the breast. A tubercle some months since had projected on the side of the breast towards the right shoulder. Two months since it had become ulcerated, and recently a considerable portion of it had sloughed off. The whole tumor was of a stony hardness and easily moveable over the pectoral muscle. She had no uterine or pulmonary difficulty; the glands of the axilla and those of other parts of the system, so far as we could discover, were free from any participation of the disease. Under these circumstances she was advised to inhale the ethereal vapor, and have the breast amputated. To this she readily consented.

At the outset an unexpected circumstance produced considerable delay. The administrator of the ether had supposed he had instructed the patient in the method of inhalation. But when she attempted it, in reality she entirely failed. However, on further instruction, she succeeded in the pro-

cess, and in less than two minutes after she began to inhale the vapor regularly, she became apparently fully narcotized.

I made a curved incision over the tendon of the pectoral muscle, and extended it under the breast towards the sternum, sufficient in length to include the whole breast. This, by a few subsequent cuts with the bistoury, was carried to the pectoral muscle. A similar curved incision was then made from the upper extremity of the first above the nipple, to the lower point. It was now announced that she was losing the influence of the ether. The operative process was now suspended a minute or two; during this period she made three or four more inhalations, and again became in appearance insensible. The whole diseased mass and breast were speedily removed. The time occupied in the operation did not exceed six minutes. Only one artery required the ligature. During most of the time of its removal she occasionally groaned, and complained of her arms being held too tight and too far back, but made no complaint of anything in relation to the breast. On recovering her consciousness, she said she was aware all the time that we were doing something, and thought I "*was pinching her breast*;" and added, "I did not take enough; if I had inhaled two or three times more I should have been wholly unconscious." Her opinion was probably correct. For some time she complained of sickness at the stomach, but did not vomit, as it is reported in a late No. of the New York Medical and Surgical Reporter that Dr. Collins's patient did. The sickness was unquestionably caused by her accidentally swallowing some of the ethereal vapor. The wound was not closed for several hours, and during this period she only complained of its smarting. Afterwards, little or no shock of the system was experienced, and she had no faintness or sinking.

As we had reason to expect from the influence of so large a wound, she suffered considerably during the incipient stage of inflammation; but when suppuration was established, she became quite comfortable. On the eighth day she sat up, enjoyed company, and the wound appeared in a healthy condition.

From the effect of the ether in these cases, from the several reported cases in the medical periodicals which have fallen under my observation, and from its influence which I have repeatedly witnessed when used in dentistry, the conclusion seems to be inevitable that this agent possesses the power of producing temporarily a suspension of sensibility and consciousness, and on this account hardly a doubt remains of its importance and utility in many cases of operative surgery. In fact, it is obviously better adapted for use in surgical operations than for those of dentistry. The reason is plain—because when administered the person sometimes closes the mouth; at others, the mouth is partially open, the jaws often not in apposition, but oblique or asquint. And occasionally, the patient is constantly talking. All these inconveniences are avoided in surgical cases, except when the part to be operated on happens to be the lips or immediate vicinity of the mouth.

Whether the letheon or ethereal vapor possesses any advantage over the protoxide of nitrogen, I have no facts from which to form an opinion.

It would appear, from a paper lately published in this periodical by Dr. P. W. Ellsworth, that if the two substances do not produce, when properly inhaled, precisely the same effects, they are, to say the least, extremely analogous. The same expression of countenance, the same exhilaration, and the same apparent effects are produced by the use of either. And the inference amounts at least to a strong presumption that, when either is inhaled beyond the point of excitement, an obtunded sensibility or narcosis will be induced.

There are two important and valuable points gained from the use of the letheon in many cases of operative surgery. The first is the mitigation of the sufferings of the patient in some cases, and in many an entire prevention of pain. This, in a great measure, removes the anxiety and terror experienced by all to a greater or less degree preceding an operation. The second may be regarded as a sequence of the former; that is, by the prevention of the realization of pain during the operation, the shock to the system, which is generally experienced after every painful surgical operation, is avoided.

I am aware that some persons, by a due preparation of the mind, will endure the pain, of an amputation of a limb for instance, without manifesting any particular emotion. I have had several such cases. But the mental effort generally augments the impression on the system, and, usually, after such an unnatural effort, the person experiences a depression, or kind of collapse, which, in several instances in my practice, for some time appeared alarming.

I know, indeed, that it has been asserted by high authority, that the inhalation of the ethereal vapor is an equivocal and dangerous expedient; that bad and sometimes fatal results have occurred from its use. But, where have these accidents occurred? What were the facts in relation to them? The importance of the subject certainly requires a candid, careful, and rigid investigation, separate from all personal, local or selfish considerations. As no evil has resulted from its use in this region, I am dependent on the reported and published cases which have come under my observation for an opinion. In these cases, admitting that those to whom it has been administered were suitable subjects, the inhalation itself has carried its own evidence that there was some error or defect. In these unfavorable cases the inhalation has lasted from twenty minutes to half an hour, and even longer. This fact alone is sufficient to show that some defect existed, either in the ether used or in its administration. It is a fact well known, that when good ether is inhaled to produce exhilaration, for amusement, only a few minutes are required before its influence is experienced. Sir H. Davy was able to respire the protoxide of nitrogen only about "*four minutes.*" Good ether is probably equally efficient in its effects with this gas, and the excitement produced by the former is speedily followed by its narcotic influence. "At first," said a gentleman who inhaled the ether for the purpose of having a tooth extracted, "I felt as though I could not sit still, but immediately I became lost."

The primary excitement induced, and the powerful subsequent narcosis

which ensues, on the inhalation of this agent, plainly show its surprising power. And the conclusion appears to follow as a corollary, that its use may be attended with pernicious, as well as advantageous, consequences. Many years since, the *dephlogisticated air* of Priestly, or the protoxide of nitrogen, was found to have a different effect on different persons; on individuals of a plethoric habit, it sometimes produces giddiness, headache and other disagreeable symptoms. The same unpleasant consequences may be expected from an injudicious use of the ether. To persons affected with disease either of the brain, lungs or heart, it probably cannot be administered without danger; or to those possessed of morbid sensibility, especially if at the time they were under much excitement. As a general rule, I would not suffer the use of the letheon, or advise its use, in a case where any local or constitutional objection was suspected.

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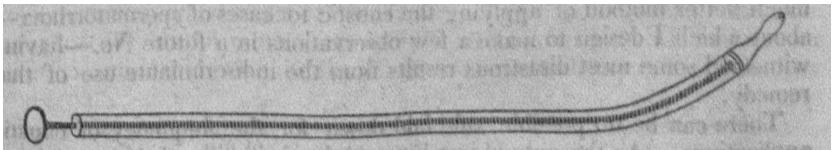
OBSERVATIONS ON STRICTURE OF THE URETHRA.

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HAVING thus briefly considered the proper choice of the bougie and the legitimate use of caustic, there remains to notice the mechanical means for the application of caustic to the centre of the stricture, the frequency of its use, the proper intervals of time for passing the bougie, and the time for it to remain at each application.

When we can introduce with some difficulty the point of a bougie, such as we have described, into the mouth of a stricture, and the patient expresses, upon very moderate pressure, the assurance that he feels a great deal of pain, it is best to withdraw the instrument for that time, taking it for granted that the irritability of the membrane is too great; the part is not yet used to it. Should the irritation in urinating be excessive the next day (for it is always best to pass the bougie and all other remedies just before retiring) it will be advisable to give *gtts. xxv.* of liquor potassæ in half a tumbler of buchu tea, morning and evening; this will overcome the ardor urinæ, and, on the ensuing night, a solution of the nitrate of silver, *grs. x.* to the ounce of water, may be thrown into the stricture by means of a catheter thus constructed and curved.



It is nothing more than a catheter syringe, having a hole in its end, not larger than a pin would enter. The curve being no greater than here represented, permits its application to any part of the urethra; whilst the small and oval perforated point will allow it to be insinuated into the mouth of the stricture, and in all probability bring their openings in direct