THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXI.

THURSDAY, NOVEMBER 10, 1859.

No. 15.

HYPODERMIC INJECTION OF MEDICINES, WITH A CASE.

[Read before the Suffolk District Medical Society, and communicated for the Boston Med. and Surg. Journal.]

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I HAVE recently been favored with an opportunity of witnessing the wonderful effects of medicine upon the human body by injection into the cellular tissue, the results of which I beg to communicate to the members of this Society, and through them to the profession generally. And I invite you all to unite in a candid investigation of the matter, and to adopt or reject it in your practice, only after a careful experimentation, which you can easily perform upon any patient suffering severe pain, or upon any of the inferior animals, the cat or dog for instance. The principle cannot be patented, and the instruments never shall.

So far back as 1843, Dr. Wood, of Edinburgh, used narcotic injections into the cellular tissue, in neuralgia, by means of a very ingenious instrument constructed by Mr. Ferguson. I believe to Dr. Wood is due the credit of first introducing to the notice of the profession this particular *modus applicandi* of medicine; the *modus operandi* was known long prior to Dr. Wood. The principle is illustrated by the poisoned arrow of the Indian, or the bite of the rattlesnake. The introduction of vaccine virus beneath the cuticle is another example familiar to every one; in fact, all contagious diseases are produced by this same principle. Thus you will perceive that this *modus operandi* of medicine is pregnant with evil as well as good.

So far as I have been able to investigate the matter, I am of opinion that this new method will supersede many of the older and slower modes of procedure in therapeutics. I am sanguine enough to believe and to predict that it will produce as great a revolution in the healing art, as the electric telegraph has done in the slow-coach system of our ancestors.

Suppose, when called to a patient attacked with violent colic, instead of giving calomel and opium every hour, or laudanum every half hour, till he be relieved, with sinapisms externally, you can, by puncturing the skin with a lancet, and injecting a little

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fluid, give almost instantaneous relief, what a blessing will it prove to mankind! Now I see no reason to doubt that injecting a solution of morphia into the cellular tissue of the arm, with a dose of castor oil given internally, will relieve colic as effectually in ten or twenty minutes, as our present system of practice effects in two, three, four or more hours, with much less trouble to the physician, and decidedly less suffering to the patient.

Again, in the passage of biliary or renal calculi I apprehend this method will afford more decided relief than any other means we can employ.

Then, again, there is another class of cases, where gastric irritation exists, either idiopathic or symptomatic, when the stomach will not retain medicine, or when it cannot be introduced into the stomach. The efficacy of this *methodus medendi* will then be incalculable.

The painful and decidedly cruel endermic mode of applying medicines may be entirely superseded, and the pain of a blistered surface completely avoided.

Physicians may yet discover by this means, and by this mode apply, anti-tetanic and anti-hydrophobic remedies, and no more speedy or effectual means could be employed of pursuing, neutralizing and destroying the bite or sting of poisonous insects or reptiles.

Medicines act upon the system principally by absorption, and our prescriptions for the cure of diseases are mostly founded upon that theory. How much medicines are altered and decomposed by the process of digestion before they reach the villi of the lacteals, no one can tell; but by this new method the medicine unchanged is subjected directly to the process of absorption, and if our theory with regard to the action of medicine be correct, we are more likely to obtain certain and successful results by this method, when admissible, than by any other.

CASE.—Oct. 5th I was requested by Dr. M. to see a patient of his, affected with delirium tremens. This was his fourth attack, from the third of which, about a year ago, he had with difficulty recovered. He had slept none since the 1st, and had been under medical treatment since the 3d, previous to which he had taken a bottle of fluid extract of valerian, of his own accord, without benefit.

On the 3d, he sent for his family physician, who prescribed tincture of opium and fluid extract of valerian. Half an ounce of the former and two ounces of the latter were given in twenty-four hours, without producing quiet, but rather the reverse. Chloric ether was also tried, from the effects of which he would sleep a few minutes, then wake up as bad as ever. Strong hop-tea was then administered freely, with an occasional dose of McMunn's elixir, and a bladder of ice kept constantly applied to the head.

When I visited him, on the morning of the 5th, he was talking

incessantly, making frequent attempts to get out of bed, fidgeting and pulling at the bedclothes, with subsultus tendinum, pulse 104, pupils contracted, head very hot, skin dry, tongue moist and coated with a white fur. He complained of dryness of the throat. Bowels regular. Knew all his attendants, and could with difficulty be kept in bed. I advised a suspension of the opium, and to continue the hop tea and valerian, and ordered a solution of bicarb. potass., to relieve an occasional attack of vomiting. Leeches to the temples. Ice to be continued to the head, and plenty of diluent drinks.

The patient continued in nearly the same condition, and under the same treatment, only varied according to circumstances, until the morning of the 8th, when he appeared evidently sinking: pulse very weak and slow, extremities cold, cold clammy perspiration exuding all over him, vocalization constant, muttering and indistinct. He did not recognize his attendants. As a last resource, I ordered a glass of hot brandy punch, and determined to try the effects of injecting morphia into the cellular tissue. I desired his family physician to procure a small glass syringe and a little morphia, which he immediately did. When he returned, he administered the punch to the patient, which was slowly but eagerly swallowed. In the mean time, I dissolved a grain of the morphia (muriate) in about half a teaspoonful of cold water, then made a puncture with a lancet into the cellular tissue of the left arm, and injected as much of the solution as I could with my very imperfect apparatus. Yet, notwithstanding all disadvantages, the experiment was perfectly successful. Some said it was the punch which made him sleep; at any rate, in twenty minutes afterward he was calm, his eyes closed, something was evidently composing him, and I was well pleased to learn, when I visited him at 2, P.M., that he had slept soundly for two hours and a half. He had evidently rallied, but the delirious symptoms continued, though much abated. I had determined to repeat the injection should the first have no effect; but he was so much better that I hoped he would sleep more, and I deferred it until the evening. I then left him, but in an hour after was sent for. The messenger said he had grown violent, and could not be kept in bed. I visited him directly; he was out of bed, partly dressed, poking about the room, tossing everything upside down. I dissolved one grain of sulphate of morphia, which I had brought with me, in about the same quantity of water as before, and repeated the punch, which was vomited immediately. Now, said I, there will be no blame to the punch. I then requested him to sit down on the bedside, and made a puncture in the other arm, large enough to admit the point of the syringe, and with the small blade of a penknife extended the puncture beneath the skin, about three eighths of an inch, without enlarging the orifice. I then introduced the syringe as far as I could, elevated the skin, and withdrew the syringe a little, so as to free the point from the cellular

tissue, then pushed the piston home. The solution whizzed in, forming an areola around the puncture, about the size of half a dollar; withdrawing the syringe, I pressed a moment on the puncture, and then applied a little adhesive plaster, to prevent the solution oozing out.

In a few minutes afterward, he started off round the room again, tossing over and examining everything, then went to the window and looked out, making remarks on the weather. The morphia was evidently operating. In a short time his eyelids began to close, and his head grew heavy. I suggested the propriety of his going to bed, to which he immediately assented, and sat down on the bedside, put off his pantaloons with a little assistance, lay down as docile as a child, and in ten minutes was sound asleep. I saw him again at 11, P.M. He was awake, but had slept upward of five hours. *Subsultus tendinum* much abated. He felt comfortable, but drowsy and thirsty, and when left alone would go right off to sleep. When I visited him again, next morning, he was wide awake, after sleeping nearly the whole night, perfectly sensible, the *subsultus tendinum* completely gone, he had no headache, bowels had been opened during the night, no unnatural thirst, and he was completely convalescent. He dozed a good deal during the day, and slept naturally the succeeding night. He continued to improve rapidly, and in three days he was up and dressed, arranging his affairs.

I have injected since in three other cases, and have used a vaccinating lancet and a small glass syringe, with the piston well packed, and have found them to answer admirably every desired object in the operation.

NEW YORK OPHTHALMIC SCHOOL.

[Communicated for the Boston Medical and Surgical Journal.]

THE Introductory to a Course of Lectures on diseases of, and operations upon the eye, was delivered by Mark Stephenson, M.D., the senior surgeon of the N. Y. Ophthalmic Hospital, on the 22d ult., at the Institution, No. 6 Stuyvesant Place. There was a full attendance of medical pupils from all sections of the country. His subject was, "The pains and pleasures consequent upon professional life—the Eye, its structure, diseases, &c." He observed:—

Some of you, gentlemen, may have chosen the profession of medicine as the business of your future lives, with the idea that it is the road to wealth, as well as honor. If so, the sooner you are apprised of your error, the better. He trusted, however, that they had entered its ranks with purer and holier purposes.

Ingratitude and misrepresentation, he said, would often arise from sources whence they least expected it, but in cases of this