

presses himself as having observed—as Nussbaum and Muhe had previously done—that the subcutaneous injection of morphia is sometimes followed by pain and redness of the face, contractions of the muscles of the lower jaw, a hammering, frequent pulse (130), dyspnoea and clonic spasms of the limbs. These symptoms lasted five minutes. The spasms first ceased. Then the pulse became quiet, and at last violent sweating broke out. Hausmann is disposed to accept the explanation given by Nussbaum that in such cases the morphia directly enters the veins. The production of the phenomena did not appear to depend on the quantity of morphia injected.

Dr. H. Harrington (*Chicago Medical Journal April, 1879*) “was called a short time since to treat W. S., male, aged 62, for acute dyspepsia (bilious attack), accompanied by very severe pain. Administered hypodermically, in hypogastric region, sulphate of morphia 0.02 grains. Before the syringe was emptied, alarming syncope supervened, and recurred twice at intervals of ten or fifteen minutes; stimulants administered freely, artificial respiration and the use of electricity, were successful in reviving the patient. Neither narcotism nor coma were in any degree present.”

Dr. E. F. Ingalls (*Chicago Medical Journal and Examiner, May, 1878*) says “I know of no precaution which will render the hypodermic injection of sedative doses of morphia entirely safe; the medicine may be given in this way a thousand times without harm; but the next time it may produce death. The danger appears to arise from rapid absorption or injection directly into the circulation, and it is greatly enhanced by the impossibility of removing the poison.”

Dr. H. Gibbons (*Pacific Medical and Surgical Journal, June, 1878,*) complains of the peculiar effects in a large number of cases.

Dr. H. H. Kane reports a large number of cases where the injection was followed by peculiar and very frequently alarming results. He advises the use of a ligature or small tourniquet, to be placed around the arm above the point of intended puncture; should any symptom of syncope come on after the injection, he tightens the ligature, and the patient is immediately relieved, for the medicine cannot pass into the system.

Dr. E. F. Ingalls addressed circulars of inquiry to eighty physicians of the Northwest, and thereby brought to light seven fatal cases not heretofore reported. In two of these the amount given was believed to be only that habitually used by the profession, but was not positively ascertained. In one case one-fifth of a grain, with one seventy-fifth of a grain of atropia; in another, one-quarter of a grain, given for sciatica, proved fatal. One death was from two doses of one-third of a grain each, with an interval of four hours between the first and second doses. Another death was caused by two doses of one-quarter of a grain each. In another case, where the patient was suffering from neuralgia of the muscles of the back,

one-sixteenth grain of sulphate of atropia was injected; no relief being given, one-quarter grain of morphia was administered by the mouth. In three-quarters of an hour from that time, one-quarter grain of morphia was injected hypodermically, which soon quieted the patient. The doctor left, and the patient died within a few hours.

The *Lancet, Nov. 8th, 1879*, reports a case where the patient (a lady) used the enormous quantity of twelve grains for a single injection, using, during a violent attack of facial neuralgia, twenty grains during twenty-four hours. The last injection produced tetanus, caused by the irritation of the puncture of the needle, and death ensued.

Dr. Z. P. Daigholine (*Practitioner, July, 1871*) gives the results of his experience with this mode of medication, “derived from two thousand injections of morphia, while house-physician to the Manchester Royal Infirmary.” He reports that, with one exception, he never saw any immediate ill effects from it, and only in one case, any great evil result from its prolonged use.

Many physicians hesitate to employ the hypodermic syringe for fear that it may produce a craving for anodynes. The *Lancet, October 11, 1879*, contains an article on hypodermic “drum drinking,” and regrets that the hypodermic syringe has been allowed to pass into other than professional hands, and considers that a physician should be held responsible when he instructs a patient to use the instrument. It is an indisputable fact that there are a considerable number of persons who are slaves to the habit of constantly employing hypodermic injections upon themselves, but the physician does not run the same risk of producing the morphia habit when he uses the syringe as he does when he administers the drug by the mouth. The patient can secure his morphine from the druggist, and he generally finds out what quantity to take as the dose is popularly known. But he has great difficulty in buying a hypodermic syringe, and he does not know what salt or quantity to inject. I claim also that the habit, when established, is very much more easily broken off than when the agent is taken by the mouth. I recall a case (a lady) in whom I commenced the use of the hypodermic injection of morphia, in May, 1874. For three months I injected every second day, for the succeeding nine months daily, during the next two months twice a day, after that daily until November, 1878. At that time I determined to cease using the agent. I did so suddenly, refusing to taper off, and not giving any anodynes by the mouth. The patient was much prostrated, but progressed favorably, and has not had a hypodermic injection since. There was no opiate of any kind allowed for several months. Since that period, I understand that morphia has been administered by the mouth for the relief of pain.

Dr. J. Braithwaite (*Lancet, November 17th, 1877*) reports a case of discontinuance of morphia after its use hypodermically for seven years. The patient, a lady, injected it herself, sometimes to