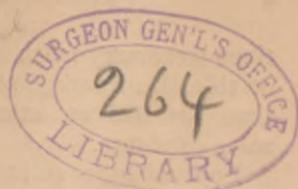


Read (Wm)



THE
TREATMENT OF DISEASES
OF THE
AIR-PASSAGES BY INHALATION.

By WILLIAM READ, M.D.

[Communicated for the Boston Medical and Surgical Journal, May 31, 1866.]

MRS. —, æt. about 40, of sanguino-bilious temperament and generally vigorous health. Occasionally has had "colds," and in one instance suffered nearly three months from bronchitis brought on in this way. Belongs to a healthy family; one sister died of phthisis consequent upon pneumonia, after an illness of many years' duration. Patient dates her attack to a cold from exposure while riding, in the month of September last. She first came under my care in the ensuing month (October). There was dulness under the right clavicle, bronchial respiration, with decided expiratory sound, and a harassing cough, with but little expectoration. She was treated with the ordinary remedies, both internal and external, but with no apparent relief. At an examination made some weeks later, the same signs were observed, and apparently extending in area. Night sweats appeared, and general debility, with great depression of spirits and increase of the expectoration; the latter symptom to such an extent as to require her to leave the breakfast-table during a paroxysm of coughing. At this time—the last of December—I proposed to her to try the effect of inhalation. She consented. A solution containing ten drops of the liquid persulphate of iron (Squibb) to an ounce of water, with five drops of tincture of opium, was put in the cup, atomized by steam, and inhaled for twenty minutes at each sitting. The effect of this was marked. After a very few inhalations the sputa began to diminish in quantity, the paroxysms of coughing grew less frequent and her hope revived. This treatment was continued, and the report in my record book is that on the 12th of January "has no paroxysms of coughing at all now." Three days later, she reported that all expectoration had ceased, and her cough was like a dry, irritating hack. About this time, owing to the inclemency of the season, which rendered it difficult for her to visit me, the inhala-

tions were very much interrupted and at long intervals; but in spite of this disadvantage she reported no relapse, although in the meantime she had an attack of influenza, consequent, probably, upon some exposure.

Feb. 6th, the solution of iron was changed for a mixture much used in Dr. Charles Warren's inhaler, and which, as reported by him, had proved of service in diseases of the pulmonary organs, but without any perceptible effect. Subsequently, muriate of ammonia, alum, chlorate of potash, and tannin, in solution, were tried at various times. Of all these, the muriate of ammonia, in the strength of ten grains to the ounce of water, with five drops of tincture of opium at each inhalation, proved most serviceable. It seems to have the property of allaying irritation of the mucous membrane and promoting expectoration to a greater degree than any other article of the materia medica which I have tried. On the 12th of April, a thorough examination of the lungs was made, with the assistance of Dr. C. Ellis, with the result of finding no appreciable disease. The portion under the right clavicle, where the disease originally was, was found to be, so far as perceptible to the ordinary methods of examination, in a perfectly healthy condition.

J. M., æt. about 17; tall and well formed, but of scrofulous diathesis. On July 19th, 1865, had an attack of tonsillitis, which was treated by application of tincture of iodine and a wet pack to the outside of the throat. The acute stage passed and a chronic state of ulceration ensued, which resisted treatment of every kind. Partial attempts at steaming, as well as the application of various caustics and astringents, were each in turn tried, but with only temporary success. Iodide of potash, combined with various tonics and different forms of iron, were also given, with the same want of success, so far as any permanent relief was concerned. Jan. 19th, just six months from the date of the first seizure, inhalation was commenced with a mixture of the liquid persulphate of iron in the proportion of ten drops to the ounce of water. The effect was immediate and very marked. The inflammation of the throat disappeared, the ulceration healed, the soreness in swallowing, of which he constantly complained, went away, and on the last day of the month he reported himself well. In the right tonsil—both were considerably enlarged—was a hole into which a probe passed freely three fourths of an inch. As a matter of precaution the inhalations were continued, at not very long intervals, until February 25th. Towards the last, the solution of iron was occasionally changed for one of chlorate of potash—ten grains to the ounce—but as a whole the treatment was by the iron, and the beneficial effects are to be attributed to that.

Acute Bronchitis.—I was called to Mr. —, who is accustomed to attacks of severe bronchial inflammation, accompanied with great dyspnoea, very much resembling the respiration of asthma, and a copious secretion of tough, viscid, semi-purulent mucus, which is expect-

torated with great difficulty. These attacks have usually lasted a week before the acute stage was fairly ended. I found him laboring for breath, with a hoarse cough, and but little expectoration that he could raise, although the sound of the cough indicated that the amount of the secretion was very great. He was immediately subjected to an inhalation of a solution of muriate of ammonia of the strength already indicated, with the usual quantity of tincture of opium. After inhaling twenty minutes the expectoration became easy and copious, and the respiration was relieved. At the visit next day he expressed himself greatly relieved; that for a considerable time after the inhalation the day before, he had expectorated most copiously, and after that was free from cough till I saw him at the second visit. His throat was much congested, and the mucous membrane appeared a good deal relaxed, probably from excessive smoking, and I accordingly substituted a solution of tannin—five grains to the ounce of water—for the muriate of ammonia inhaled at the previous sitting. To this was added five drops of tincture of opium. He was much improved at the next visit. The severity of the attack was mitigated, so that the pulmonary symptoms no longer oppressed him. Inhalation of muriate of ammonia, with five drops of tincture of opium, as at the first visit, and *R.* Podophyllin, gr. i.; leptandrin, gr. iv.; ext. cannab. ind., gr. i. *M.* Ft. pil. ij. Take them at night.

On the next day, the fourth of the illness, he reported himself "well enough" of the trouble in the lungs, but suffering from influenza of the nasal passages. An inhalation through the nostrils was given—the same materials used as on the day previous—and I left him, to be called when needed.

In this case the treatment by inhalation brought the patient to the same degree of convalescence that under ordinary remedies and in former attacks occupied more than twice the time.

April 23d.—I was called to Mr. —, who was suffering from the effects of a cold terminating in severe bronchitis. He inhaled a solution of muriate of ammonia, with the usual addition of five drops of tincture of opium, and a recipe for an expectorant mixture was left, to be used p. r. n. In the evening of the same day I was suddenly called again, and on reaching the house, not immediately, however, I found him inhaling the vapor of iodine through the nostrils. His voice was sharp and stridulous—the voice of acute laryngitis—and he was anxious, and the cause of much alarm to his family. There was a good deal of pain, and a feeling as if some one was grasping him by the throat, so much so that before he began the inhalation of the iodine he feared suffocation. As soon as possible, the inhalation was prepared with a solution of muriate of ammonia, with five drops of tincture of opium, and he commenced to breathe the vapor. Its effect was magical. He again and again expressed his sense of relief, and in the course of an hour was entirely relieved from the

urgency of the symptoms. His voice, which, when I entered the door, was audible at every inspiration, with a true croupy ring, subsided into a hoarse whisper, and free expectoration was established. He was left, with directions to apply a wet pack to his throat, and if in the night the sense of suffocation returned, to use the inhaler at once, which was left ready for use on applying the lamp. Next morning he reported a good night's rest, with no return as yet of the trouble in the throat. Cough loose and easy, expectoration quite copious. Inhalation repeated as last night, but instead of water only in the boiler of the inhaler, an infusion of mullein (*verbascum thapsus*) was substituted, but with poor effect, as the vegetable matter held in solution clogged the tubes so much as to seriously impede the process. His report of yesterday is, that he felt no more particular discomfort than is usual to a severe cold until about 9, P.M., when he began to lose his breath and feel as if he were choking, and that from that time till he began the inhalation he had no relief. In the evening of the same day he reported having been comfortable, coughed much less, and had but little feeling of constriction about the chest. Inhalation of muriate of ammonia and tincture of opium. Voice still very hoarse.

From this time he rapidly improved, and on the 28th the record is: "Convalescent—The cure has been very much expedited by the inhalation."

April 22d.—Just previous to the occurrence of the last reported case, I was called to Mr. —, whom I found suffering from a return of hæmoptysis, to attacks of which he had occasionally been subjected during the past two years. For the past year his health had been comparatively good, with an occasional ill turn. Cough moderate, and principally confined to the morning. Expectoration quite free. This A.M., about 3 o'clock, was awakened from sleep by the taste of blood in his mouth. Since then—till 10, A.M.—has raised by estimate about half a teacupful. Auscultation revealed a cavity of considerable size under the right clavicle. Left lung not materially affected as yet. Sputa mixed with blood, quite fresh. Gave him an inhalation of persulphate of iron—five drops of Squibb's solution to the ounce of water, with five drops of tincture of opium. He is also suffering from a rheumatic affection of right knee-joint. Wrap the joint in a flannel wet with soap and opium liniment.

23d.—At the next visit, there being no increase of the hæmoptysis and the expectoration not being so free as it might be, the solution of iron was substituted by one of muriate of ammonia, with the usual laudanum.

24th.—Reports a very quiet day yesterday. Expectoration decidedly less in quantity, but entirely free and easy to raise. Inhalation of the iron, as at the first sitting.

25th.—Expectoration very free, but much diminished in quantity. Considerable blood mixed with it. Feels great relief from the in-

halation as compared with any treatment he had before tried. Inhalation of iron.

On the 26th and 27th nothing material was reported, and the inhalation of the solution of iron was repeated.

On the 28th, the blood had disappeared from the sputa and did not again make its appearance. The same treatment was pursued until attendance ceased.

Inhalation of remedies in the treatment of the various diseases of the air-passages and pulmonary organs, has been from the earliest days a favorite method of treatment. The very diversity of the means employed and the repeated attempts to devise some apparatus which should answer the end in view, testify in the strongest manner to the importance, in the opinion of the profession, of this department of practical medicine. How to combine facility of application, thoroughness of effect, and comfort to the patient with a moderate cost, has been the great question. The fault of the instruments heretofore made has been, that in obtaining a sufficient protection to the face of the person inhaling, the necessary machinery was cumbersome or liable to be easily deranged. It was too complex, or separated into too many parts, requiring great care in their proper adjustment and use. It is confidently believed that the apparatus of which the accompanying cut gives a good idea, is free from these objections, and will be found to meet every requirement of simplicity, durability, ease of application, comfort and cheapness. It has had an experience of some months' daily use, and has proved satisfactory in every respect.

The remedies used include all which can be administered in a liquid form by the mouth. For expectorants, iodide of potash, nitrate of potash, chlorate of potash, aqua calcis, and muriate of ammonia, in the proportion of ten grains to the ounce of water, have been tested with good effect; but the most direct in its action and productive of the best effect is the last named. My experience has been that an anodyne of some kind, varied according to the idiosyncrasy of the patient, is a useful and valuable addition at each inhalation.

For this purpose I have used tincture of opium, hyoscyamus and stramonium, in the proportion of five drops to the quantity inhaled—usually a fluidounce—at each sitting.

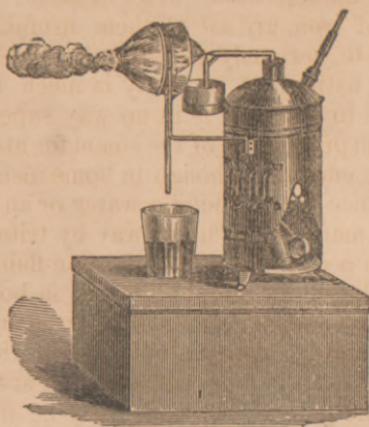
As astringents, in cases of hæmoptysis, chronic inflammation of the mucous membrane of the air-passages, and in the secondary stage of acute inflammation of the same regions, the liquid persulphate of



iron, a solution of tannin, alum, and in some cases the tincture of the perchloride of iron, are all of them useful. The last-named article has the fault of seriously affecting the teeth, and is objected to by patients. Its astringent property is much inferior to that of the persulphate, and in its effect is in no way superior.

As a vehicle in the production of the steam for atomizing these fluids simple water will be enough, although in some instances patients have expressed a preference for chamomile water or an infusion of mullein leaves; the former made in the usual way by triturating the oil mixed with magnesia in a quantity of water—one fluidrachm to an ounce of water—and the latter by simple infusion in boiling water. Two teaspoonfuls of the chamomile water introduced into the boiler will be sufficient to thoroughly impregnate the steam with its characteristic odor, and it no doubt acts as a gentle stimulant at the same time. At the preference of the patient, the same may be done with the other aromatic oils, such as spearmint, pennyroyal, &c. In the forms of asthma dependent on the metastasis of some form of eruptive disease, as maintained by Trousseau, a translation of whose article on this subject may be found in Vols. lix. and lx. of this JOURNAL, it might be well to try the liquor potass. arsenit. (Fowler's solution). I have used this in one case, but with no other effect as yet than that of proving its perfect tolerance in the same dose as directed for administration by the mouth.

Inhalation, as a mode of treating a certain class of diseases by means of the various apparatus that have been devised within a recent period, is as yet in its infancy. The results already attained warrant a favorable reception and careful investigation of its effects at the hands of the profession.



THE NEPHOGENE.

THE most compact, complete and *cheapest* steam apparatus yet devised for atomizing medicated fluids for inhalation.

Securely packed for transportation in a metallic box 4 by 8 inches in size, which also serves for a stand when the instrument is in use, and obviates the necessity of any additional fixtures. Can be used with any kind of atomizers.

Sent by express, on receipt of the price, to any part of the United States and Canada.

Price, \$9.00. Extra Face Protectors, \$1.00.

Every instrument will be thoroughly tested and warranted perfect in every respect.

WILLIAM READ, M.D.,
873 Washington Street, Boston, Mass.

