

gets daily worse, and when the patient is exposed to it the chief part of the day. All these patients came daily to the hospital. Of course it is much better to keep the patient in a warm room.

All but one of the twenty-five cases were benefited. In one case the improvement was very gradual, but there was evident temporary improvement after each inhalation. In twenty-one cases, the average number of inhalations required was 9.4, and the average number of days was twelve, before the patients were discharged cured. The greatest number of inhalations in one case was eighteen, and the smallest three. The case longest under treatment required twenty-four days, the shortest four.

In employing the ipecacuanha spray in order to insure as far as possible only its topical effects, we were careful to direct the patient to spit out, and even to rinse out the mouth at each pause in the administration, for a much larger quantity of the wine collects in the mouth than passes into the lungs. If this precaution is not adopted, sometimes enough is swallowed to excite nausea and even vomiting, by which means the bronchial mucus is mechanically expelled, and of course in this way effects temporary improvement. Even when this precaution is observed, a protracted inhalation will excite nausea and sometimes vomiting by the absorption of the wine by the bronchial mucous membrane. Though strange to say when thus induced, vomiting was long delayed, even for several hours, nay, sometimes till the evening, though the inhalation was used in the morning. In our cases, however, the improvement was not due to the nauseating effects of the spray, for we took care to avoid this contingency, by administering a quantity inadequate to produce this result. The duration of each inhalation will depend on the amount of spray produced by each compression of the elastic ball or the susceptibility of the patient to the action of ipecacuanha. As a rule, the patient at first will bear from twenty squeezes of the spray without nausea, and will soon bear much more. After two or three squeezes, especially on

the commencement of the treatment, we must pause awhile. It is necessary to look at the patient's tongue, and tell him to learn to depress it; for, if the tongue is much arched, it will hinder the passage of the spray to the lungs. It is a good plan to tell the patient to close his nose with his fingers, and to breathe deeply. The inhalation should be used at first daily, and in bad cases twice or thrice in the day, afterwards every other day suffices, and the interval may be gradually extended. If the ipecacuanha wine is diluted, then the spray must be used a longer time. In cold weather the wine should be warmed.

We have tried the spray with very satisfactory results in a few cases of the following more severe, though closely allied, disease. A patient for several years has suffered from severe "winter cough," with much dyspnoea, cough and expectoration, and on several occasions has spat up a considerable quantity of blood. The physical signs denote slight fibroid consolidation with excavation of both apices with much emphysema, perhaps atrophous in kind. There is little or no rhonchus, and no fever. The expectoration may be slight or very abundant, muco-purulent or purulent. The dyspnoea is perhaps so very severe, and is so paroxysmal as to justify calling the case bronchial asthma with emphysema and fibroid phthisis.

In these cases the ipecacuanha spray is almost as beneficial as in the preceding. It soon controls the dyspnoea, thus enabling the patient to sleep, greatly lessens expectoration and cough, and by these means really improves the general health. As in the previous cases the first inhalation may considerably improve the breathing, the effects of inhalation are not permanent, the dyspnoea returning in the evening, so that spraying is needed night and morning and may be necessary for weeks or months, the ipecacuanha appearing rather to give relief than to permanently cure the dyspnoea.

We have used this spray in two cases of true and severe bronchial asthma, with very opposite results. In one severe case accompanied by a great deal of bronchitis it gave very

great relief. The other patient, not so ill, had been all his life asthmatic, and on catching even a slight cold his breathing became greatly oppressed. In this instance each application of the spray considerably aggravated the dyspnoea even when the wine was diluted with an equal quantity of water. Possibly a still weaker solution might have been borne, but we are inclined to think that in this case any quantity of ipecacuanha would have disagreed as the tightness of breathing increased almost immediately the inhalation was begun. The successful case was a very severe one. For years this woman had suffered from bronchitic asthma, and when she applied to the Hospital was unable to lie down, owing to violent paroxysmal dyspnoea. The worst attack began about 3 A.M. compelling her to start out of bed and struggle for breath. She was very emphysematous, the expiration enormously prolonged. She was very hoarse. The first inhalation removed the hoarseness in a few minutes, and much improved her breathing which continued freer till midnight when the dyspnoea returned. The cough was eased and she expectorated more freely. Each inhalation always gave her very great and marked relief. She walked to the Hospital with great difficulty and was constrained to stop frequently. On entering the room she could not speak but laboured violently, and with loud wheezing to get her breath. A few inhalations would gradually set the breathing free, so that the air entered more and more freely and the wheezing gradually left, till by the completion of the inhalation, she could breathe without difficulty. As the breathing improved she could feel the spray descending lower and lower in her chest. At first it would seem to reach only the back of the tongue, then the top of the sternum, then descend to mid-sternum, and at last she felt as if it reached as low as the pit of the stomach. This improvement was maintained through the day, but at evening a relapse would occur, so that her nights though at first bad, were still decidedly better than before the treatment. Soon, however, the effects became more lasting and she slept well. On discontinuing the spray, however, her breathing again

grew worse, and she was obliged to revert to the treatment, but unfortunately she so easily caught cold, and so bad was the weather that she was obliged to stay away for days together. Whilst her breathing improved, the cough and expectoration likewise improved, but these two symptoms continued rather troublesome. Probably in bad bronchitic asthma, the spray must at first be used twice a day or oftener, and must be continued for some time to ward off the dyspnoea, for in these obstinate chronic cases the bronchitis may take a considerable time to cure. So marked was the benefit from the spray that the patient and her friends expressed their astonishment especially at the prompt relief it gave.

Dr. Hyde Salter strongly recommends ipecacuanha in hay asthma, and in other forms of asthma, employing it to cut short a paroxysm of dyspnoea. He considers that in common with tobacco and antimony, it controls by virtue of its action as a depressant. He prefers it to the other two remedies just named, and gives it in doses large enough to cause depression, but too small to excite vomiting. Like other depressants it must be given at the very beginning of the attack of dyspnoea; for, if this is fully developed, the power of the remedy is considerably lessened. He prefers the powder to the wine, and seldom gives less than twenty grains. This treatment, directed only against each attack of dyspnoea, leaves the complaint in other respects untouched, and more permanent relief must be sought in an appropriate diet, and a climate suited to the patient.*

* Dr. Hyde Salter, in a recent lecture, has drawn particular attention to the influence of diet on pure asthma. As persons prone to asthma suffer from tightness of the breath for some hours after a meal, and the smallest quantity of food greatly aggravates an attack of asthma, therefore the meals must be small, and composed of most digestible food. Asthmatic attacks occur most commonly at night, seeming to be favoured by sleep, an attack being often warded off by the patient keeping awake. The attacks are especially liable to occur after a late meal, therefore an asthmatic should take a light tea, and go without supper; in fact, should take no full meal after two o'clock. Breakfast should be the chief meal. Asthmatics must rise early, to avoid a too prolonged fast. Their food must be plain, well-

Ipecacuanha is useful in many cases of whooping cough. It may lessen the severity and frequency of the paroxysms,

cooked, and nutritious. Milk and eggs form a good diet. Cocoa is better than tea, but milk is better than either. Mutton is superior to beef or lamb, while pork and veal must be prohibited; new boiled potatoes or succulent vegetables may be permitted. Fish is suitable. Cheese, dessert, preserved meats or fruits, must not be eaten, and stimulants of any kind are generally bad. Heavy malt liquors, especially those containing much carbonic acid, are the worst of drinks. The quantity of food should not be large, although food does not produce the paroxysm by its bulk, as the attack generally occurs some hours after a meal, when the stomach is becoming empty. Most asthmatics may eat what they like at breakfast. Dr. Pridham, who has had great success in his treatment of asthma, and who long ago pointed out the importance of a regulated diet, orders for his patients the following regimen.—Breakfast, at eight, half a pint of green tea or coffee, with a little cream, and two ounces of dry stale bread. Dinner, at one, two ounces of fresh beef or mutton, without fat or skin, two ounces of stale dry bread or well-boiled rice. Three hours after dinner, half a pint of weak brandy and water, or toast and water *ad libitum*. Supper, at seven, two ounces of meat and two ounces of dry bread. He prohibits drinking for an hour before dinner or supper, and till three hours after meals. When digestion has improved, he allows his patients three ounces of meat twice a day. The following excellent remarks on the climates suitable for asthmatics are Dr. Salter's.

(a.) Residence in one locality will radically and permanently cure asthma resisting all treatment in another locality.

(b.) The localities most beneficial to the largest number of cases are large, populous, and smoky cities.

(c.) That this effect of locality depends probably on the air.

(d.) That the air which would be imagined to be the worst for the general health is, as a rule, the best for asthma; thus the worst parts of cities are the best, and conversely.

(e.) This is not always the case, the very reverse being sometimes so.

(f.) That there is no end to the apparent caprice of asthma in this respect.

(l.) That possibly there is no case of asthma that might not be cured if the right air could be found.

(m.) That the disposition is not eradicated, but merely suspended.

In the chapter on nitre I have dwelt on the uncertain action of nitre paper. Patients have told me that a paper which suits one asthmatic, fails in another and vice versa. A considerable recent experience leads me to conclude that these papers would prove much more relieving if somewhat differently prepared, and if pieces were burned sufficiently large to fill the room

and it will often arrest the vomiting they produce. Dr. Phillips and some other observers consider it to be especially useful when the attacks of coughing are accompanied by retching and vomiting. Like other whooping-cough remedies, it fails often in cases apparently in all respects similar to those it benefits, and in certain epidemics it appears to be all but useless.

It is also supposed to be a diaphoretic, and of course excites sweating when it excites nausea; but even without this condition it may be perhaps a diaphoretic.

It has been highly praised for its usefulness in hæmorrhages, as in epistaxis,* bleeding from the lungs or womb, and the flooding after delivery. Some of its advocates give even drachm doses of the powder.

In flooding after delivery, Higginbotham recommends ipecacuanha, in quantity sufficient to produce vomiting, and ascribes to this effect its great efficacy in arresting hæmorrhage; in his hands, this treatment has been successful in the

with fumes. The most efficacious paper is made by dipping ordinary white blotting paper in a boiling saturated solution of nitrate of potash and chlorate of potash. Paper thus prepared burns with a flame. A large piece of this, the size of course depending on the dimension of the room, often succeeds when other prepared papers fail. A piece ten inches square, and sometimes two or three pieces are required. Recently when ordinary papers have failed, I have used in some cases with advantage a pastile compounded of two parts of nitre, one part of chlorate of potash with two parts of lycopodium powder. My friend Mr. William Murrell is using with much success a thick paper soaked in a boiling saturated solution of nitre and chlorate of potash. This thick paper, made by the adhesion of six sheets during crystallization, contains when dry twice its own weight of salt; and a piece of paper six inches square, takes up nearly half an ounce of the mixed salt. Certain cases require a greater quantity of nitre smoke than others. I am convinced that the reason why papers appear in so many cases to fail, is that they are not adequately impregnated with nitre, and are too sparingly consumed.

* Dr. Martin of Geneva, arrests epistaxis (the blood generally coming from one nostril) by compressing the facial artery of the side upon the upper jaw, near the nose. Thus lessening the supply of blood to the nose. Is it possible to arrest flooding by compressing the aorta in the way employed by Dr. Murray in aneurism?

most desperate flooding cases. It may well be doubted, however, whether beyond its emetic effect ipecacuanha exerts any influence over uterine hæmorrhage. Zinc would probably answer equally well. Dr. George Bird tells me that he once witnessed, in the case of a Syrian Jewess, the prompt suppression of flooding by her attendant, who crammed down the patient's throat a handful of her hair. Probably the mechanical excitation of vomiting would prove useful in flooding.

Trousseau recommended ipecacuanha to be taken for some days immediately after childbirth as a useful means to promote the natural functions peculiar to that time.

Ipecacuanha acts most surely as an emetic when given in divided doses at short intervals; as five grains in a little warm water every five or ten minutes.

**VERATRUM VIRIDE.
VERATRUM ALBUM.
VERATRIA.**

VERATRIA ointment excites a sensation of warmth and pricking followed by coldness. Unless applied for some time it does not excite inflammation, but then it produces a red itching rash. It is a very valuable remedy for neuralgia, and like aconite has most influence over neuralgia of the fifth nerve. An ointment of the pharmacopœial strength is generally strong enough when applied to the face, but in other neuralgias a stronger ointment is required. Dr. Turnbull, who largely employed veratria ointment, used a preparation containing twenty and sometimes even forty grains to the ounce. These strong ointments not uncommonly prove very useful in sciatica when rubbed along the course of pain for twenty minutes to half an hour twice or three times a day. This strong ointment is sometimes useful in the neuralgic pain

consequent shingles. The susceptibility to its action varies; thus, in some persons numbness and a sensation of coldness is easily produced, and may last several days.

Like aconitia ointment, it is often useful in sick headache, where the pain is accompanied and followed by tenderness of the skin. It should be well rubbed over the seat of pain on the very commencement of the attack. It excites less irritation and sometimes succeeds better than the aconite, often very quickly subduing the pain and preventing the vomiting, and reducing the duration of an attack to one or two hours, or even a few minutes, while previous to the veratria treatment it used to last one, two, or three days.

Dr. Turnbull used a strong ointment to rheumatic joints, and no doubt it relieves some cases, although, unfortunately, it more generally fails.

Turnbull also applied the ointment to the chest of patients suffering from heart disease, with rapid irregular pulse, hurried breathing, much lividity and dropsy, palpitation and inability to lie down—to cases indeed usually benefited by digitalis. The ointment not uncommonly relieved these symptoms, the patients passing a large quantity of urine, even six pints a day. He maintains that it acts differently on the system when absorbed by the skin than when administered by the mouth. He likewise employed a strong ointment to the painful joints at the onset of an attack of gout. Care must be taken, especially with the stronger ointments, not to apply them to the broken skin, or they will excite much pain and inflammation.

When sniffed up the nose the smallest quantity excites violent sneezing, sometimes lasting for hours.

Mr. Bullock, of Philadelphia, describes two alkaloids existing in veratrum viride, called respectively veridia and veratroidia; one soluble, the other insoluble, in ether. According to Horatio Wood they differ greatly in their action on the body. Both depress the pulse and Dr. Wood thinks the functions likewise of the spinal cord. Veridia is but slightly, if at all, a topical irritant, and neither purges nor vomits.