and alkali treatment from the tenth week. There was a trace of albumia at the twenty-second week. Alkalis were increased up to 720 grains a day. Albumin disappeared. Live baby born at term.

CASE VI.—First pregnancy in 1927. Albuminuria. Premature twins born alive. Second pregnancy in 1928-29. Under full alkali treatment from the sixteenth week. No albumin; no oedema. Live baby at term.

CASE VII.—Patient had nephritis at the age of 10. Albuminuria and oedema were present before pregnancy. She was under observation from the fourteenth week. She was given 400 grains a day, later reduced to 150 grains a day. No albumin; no oedema. Live baby at term.

CASE VIII.—In the first pregnancy eclampsia was present. Baby stillborn. During the second pregnancy the patient was on alkali. No albumin until two days before delivery, when a trace was found. Live baby at term.

CASE IX.—First pregnancy: albuminuria present. Premature baby weighing 3 lb. 2 oz. born alive; lived two days. In the second pregnancy patient was under observation from the twelfth week. Small amounts of alkali only. No albumin. Live baby at term (6 lb.).

CASE X.—First pregnancy in 1925-26. Admitted with gross albuminuria. Live baby. Second pregnancy in 1927. Under observation from the eighth week. Small amounts of alkali only. No albumin. Live baby at term.

CASE XI.—First pregnancy in 1925-26. Admitted with gross albuminuria. Premature baby weighing 3 lb. 8 oz.; lived four days. Second pregnancy in 1927. Under observation from the tenth week. Small amounts of alkali only. No albumin. Live baby at term.

CASE XII.—First pregnancy in 1921. Admitted with eclampsia. Baby stillborn. Second pregnancy in 1925. Under observation from the fourteenth week. Small amounts of alkali only. No albumin. Live baby at term.

CASE XIII.—First pregnancy ended by miscarriage about the twenty-fifth week. Albuminuria; blindness. The second pregnancy was a repetition of the first. In the third pregnancy patient was under observation from the twelfth week. Full alkali treatment—150 grains, increased to 350 grains. No albumin. Live baby at term.

CASE XIV.—First pregnancy normal. In the second pregnancy albuminuria and oedema were present during the last two months. Premature baby born alive. In the third pregnancy the patient was under observation from the twenty-sixth week. She was given 400 grains, increased to 500 grains daily. No albumin or oedema. Live baby at term.

GAS-OXYGEN IN MIDWIFERY.*

BY

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For many years past I have thought that the statement "Pregnant women stand chloroform well" was a mistake—merely copied from one book to another. I felt that it was obviously wrong to give a woman at the time of the birth of her child an anaesthetic so potent, so toxic, so dangerous as chloroform; but it was the accepted idea which had been handed down to us from the late Sir James Y. Simpson, and so it was a sort of gospel that is believed in even now, although there have been a very large number of fatalities—fatalities which will continue so long as this method is employed.

In this communication I propose to put before you a newer and, I think, a better idea—it is the administration of gas and oxygen for childbirth. This method has been familiar to me for some time from the literature of anaesthetics in Canada and the United States of America, but it was not until 1921 when, as the representative of the Anaesthetics Section of the Royal Society of Medicine, I went to Canada and the United States, that I first had personal and practical knowledge of it. I should like here and now to say that my introduction to this most valuable method was due almost wholly to Dr. Wesley Bourne of Montreal. The method has both advantages and disadvantages, and I propose to deal with them in that order.

Advantages.

1. The patient is given gas and oxygen with every pain—and after a few minutes she learns to ask for the mask as a pain is starting; she soon finds out that a few breaths of gas and oxygen will greatly diminish her pain, and when she realizes that she can go on having it, and that it will not slow her labour or hurt either herself or her baby, she is delighted.

2. The gas and oxygen, being non-toxic, can be given for a very long time without any harm to the mother or child—provided always that cyanosis is never allowed to be present. (My longest case so far has been eleven and a half hours.)

3. As this anaesthetic is non-toxic, it follows that the mother and the child have less to eliminate afterwards than if they are given chloroform. In connexion with this I well remember a case when the mother and child were both yellow for many days after a long chloroform administration, and yet with her next baby the mother refused to have the newer and, in my opinion, better anaesthetic.

4. The anaesthetist can greatly reduce the obstetrician's work, for if he knows enough of midwifery he need not send for the obstetrician until about an hour before the child is born. This is a point that I commend to the notice of the obstetricians.

5. The patient soon gets to an analgesic state, and between the pains is quite conscious, and indeed in some cases inclined to be talkative.

6. Finally, towards the end of the confinement, when the head is on the perineum, a little ether can be turned on, and the patient rendered completely unconscious, then, as the head is born, the ether is shut off, likewise the gas, and a mixture of CO₂ + O (1 to 6) is given; this increases the respirations of the mother both in rate and amplitude, and as a result the baby becomes rosy pink and begins to "give tongue."

7. After the child is completely delivered, it is quite easy to deepen up the anaesthesia for the delivery of the placenta, and in my experience women who have had this form of analgesia *plus* anaesthesia recover consciousness very soon; and long before one can pack up one's things and leave they are quite conscious and full of gratitude, especially those who have had chloroform for their previous confinements.

Disadvantages.

1. A special anaesthetist has to be present, and one who knows the method. It is not a method for one man to do both anaesthetic and confinement.

2. He must have an apparatus suitable for the occasion. The obstetric sets can be hired at a small charge for the use of the machine, and when returned to the makers they see how much of the gases have been used and charge for them as well.

3. The anaesthetic is naturally more costly than when chloroform is given.

The impression left on my mind by the cases that I have attended is that the pains are by no means slowed; indeed, I think that in some cases, where plenty of oxygen has been used, the pains seemed to be increased both in frequency and in strength. This, however, is merely my impression. I cannot prove it. There is one point, however, that I am sure of, and it is that the patients are far less exhausted, even after a long labour, with gas and oxygen than they are after chloroform; moreover, they recover much more quickly.

It is essential to remember that throughout the whole administration the patient must be kept pink. Cyanosis should never be present, since if allowed for any time the life of the child will be endangered.

I prefer to start the anaesthetic at the commencement of the second stage of labour, but if the patient is a nervous primipara then it can be started before. My usual custom when I begin is to have the gas-bag nearly full of gas and oxygen in the proportion of about 4 to 1, and to tell the patient to take three or four big breaths, and then to hold her breath. She will then feel a sort of pleasant feeling of well-being permeating the whole body, and the pain will be dulled. It is only necessary to give the gas and oxygen with each pain; it should not be given continuously. Later on, when the expulsive pains begin, the patient is told to take four or five big breaths and then strain down. They know a pain is on, but, as they are analgesic, they will obey instructions and strain down.

Care must be taken to see that when the head is on the perineum the expulsive pains are under proper control. By this I mean that the patient must be quiet, and to do this, as I said before, a little ether is mixed with the gas.

* Read in the Section of Anaesthetics at the Annual Meeting of the British Medical Association, Manchester, 1929.

and oxygen, the pains are controlled, and tearing of the perineum is avoided.

I am quite convinced in my own mind that anyone who has seen a labour conducted under gas and oxygen analgesia, with a brief period of anaesthesia for the actual birth, will never willingly give anything else. The method is comparatively new in this country, and it may take years to develop and spread, but I feel sure that by its adoption a certain number of lives—both of mothers and children—would be saved. This is a point of paramount importance, and one that I am certain will appeal greatly to everyone who has the welfare of women in childbirth at heart.

THE DRUG TREATMENT OF SPASMODIC RHINORRHOEA.*

BY

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THE name "spasmodic rhinorrhoea" is symptomatic and serves well; vasomotor rhinitis, spasmodic rhinitis, paroxysmal rhinitis, and intermittent neurotic catarrh are alternatives. Perhaps I should now use the more up-to-date phrase "nasal manifestation of allergy." The subject of "allergy" is wide, and embraces many conditions which up to now have been regarded as entities—asthma, hay fever, rhinorrhoea, urticaria, intestinal disturbances, angioneurotic oedema. It is now recognized that all these diseases are manifestations of reaction of body cells to stimuli, many of which are not known. In our specialty one of the stimuli is known—pollen in the production of hay fever. It is thus seen that the subject chosen for these notes is only a corner of a wide field.

No doubt eventually it will be possible to treat each case appropriately; in the meantime, empiricism plays an important part. In these cases of mine that empiricism is everything, as no investigation was made to discover the exciting cause of the symptoms. Briefly, the symptoms of spasmodic rhinorrhoea are a watery discharge from the nose, accompanied by or preceded by sneezing. The symptoms vary a good deal in degree.

Many people who look on themselves as normal sneeze several times on rising in the morning; many more sneeze on looking at the sun. One man, a medical student, had a bad bout of rhinorrhoea and sneezing only at week ends. At the other end of the scale there are patients who suffer from rhinorrhoea or sneezing all day; so profuse is the rhinorrhoea that it wakes them, and before they have time to reach for a handkerchief their nightgowns are soaked. In one case the patient sneezed thirty to fifty times before breakfast, another a hundred times. Occasionally the sneezing is so severe that the patients are completely exhausted; on one occasion such a patient had to be placed in a nursing home and given morphine to check the sneezing. Between these extremes there are many grades. Patients often feel exhausted and children complain of tiredness on playing games.

I do not pretend to know when the suggestion of thyroid administration was first mooted, but it was suggested to me by the case that I now quote. Some years ago I was consulted by a lady for nasal symptoms which had developed since she became pregnant; these symptoms were nasal obstruction, rhinorrhoea, and sneezing. Thinking that some error of internal secretion might be the cause, I gave thyroid extract, with good results. After pregnancy was over all symptoms disappeared. This lady came to see me again during the next pregnancy with recurrence of symptoms; the same treatment cured her. This, of course, was cheering to me as well as to her, and in my mind established some internal secretion error as an underlying factor in cases of spasmodic rhinorrhoea, and a tendency developed to treat all my cases similarly, regardless of age or sex. The following case also suggested that some metabolic error might be present. A woman of 55 attended the out-patient department at Guy's Hospital on account of rhinorrhoea so profuse that her life was rendered miserable; it woke her at night, and her nightgown was

soaked before she could reach her handkerchief. After one week's treatment with thyroid she was cured. Then, in 1919 or 1920, Dr. Mayo read a paper at the Royal Society of Medicine on the importance of calcium to the human economy. The impression left on my mind was that all human ills were the result of lack or perhaps excess of calcium. Calcium was therefore added to the thyroid.

TREATMENT.

The details of treatment have varied slightly from time to time: the earlier cases received thyroid extract; later calcium lactate and parathyroid were given; other forms of calcium employed were kalzana, tricalcine, and, in a few cases, collosol calcium. The dose is 15 grains of the calcium and 1/10 grain of parathyroid extract; of thyroid extract 1/2 grain twice a day, though this may have to be reduced; of collosol calcium 1 drachm twice a day. In two cases quinine was given when hyperthyroidism was suspected.

Before starting treatment one tries to exclude obvious mechanical abnormalities in the nose—sinus infections, polypi, adenoids.

RESULTS.

As indicated above, the results of this treatment are sometimes dramatic; but many cases that appear typical fail to respond at all. Perhaps one or two cases are worth quoting.

Case 1.—A boy of 12, a doctor's son, was subject to asthma; he had a very sensitive nose, a mere touch being enough to make him sneeze. The mucus membrane of the nose was pale. He was given 15 grains of calcium lactate and 1/2 grain of thyroid extract twice a day. His father wrote that the boy had been better in health than term than ever before: the "colds" disappeared, also all asthma. In error he had been having 1/2 grain of thyroid gland, instead of extract, so that the result of treatment must almost surely have been due to the calcium. It was found that if the calcium was stopped the "colds" returned.

Case 2.—A boy of 16 in September, 1927, complained of nasal obstruction and "colds"; he had some shortness of breath, which was considered to be asthma by a competent observer. He sneezed a great deal and had much rhinorrhoea. He was given 15 grains of tricalcine and 1/10 grain of parathyroid extract twice a day. Two months later all symptoms had disappeared, and he had lost his shortness of breath. His doctor considered all his troubles to be due to infected tonsils, and was, I fear, annoyed with me that I would not remove them. The boy has remained perfectly well.

Case 3.—A lady of 47, seen in October, 1927, complained of "nasal catarrh" of a few years' standing. She had intense nasal irritation, watery discharge, and violent sneezing, chiefly at night, which awakened her at 3 to 5 a.m. She was given 15 grains of tricalcine and 1/10 grain of parathyroid extract twice a day. In November—one month later—she wrote saying that she was almost well.

Case 4.—A man of 45, a schoolmaster, seen in February, 1926. He had had hay fever for twenty-three years, and then began getting symptoms all the year round, and this had culminated in a very severe attack of rhinorrhoea and sneezing, which had exhausted him. He had tried many remedies, and confessed that he came with little faith or hope. After taking calcium lactate and parathyroid for fourteen days he wrote that he was cured—"the stuffy breathless oppression has gone, and I have had practically nothing since."

Case 5.—A boy of 11 was seen in 1926; he was never free from a cold; he had had various operations on this account. At 5 years of age he had had adenoids removed; at 9 tonsils removed; at 9½ tonsils enucleated and some operation on the nose; he had also had appendicitis. In spite of all his adventures no improvement had resulted; the nose was always blocked, and he had headaches and a lot of sneezing in the mornings. Examination showed that the anterior end of the right inferior turbinal had been removed, also, of course, the tonsils and adenoids. Calcium lactate and parathyroid were given; the result was good, he ceased sneezing in the morning, scarcely had to use a handkerchief, and felt very much better. One may wonder in this case whether the appendicitis was not really another manifestation of allergy.

Case 6.—The following case shows the occasional rapid result of treatment. A nurse, aged 42, had such profuse rhinorrhoea that she had to use towels in place of handkerchiefs; it also woke her at about 3 a.m.; she had much sneezing. After three or four days of calcium and parathyroid she wrote to say she was cured.

Details of all the cases would be of no interest, but here are the results in 40 consecutive cases which were followed up as far as possible:

Cured	...	...	...	...	15 = 37% }	65%
Better	...	...	...	...	11 = 27% }	
No better	...	...	...	...	5	
Not traced	...	...	...	...	9	

It is not suggested for a moment that 65 per cent. of cases of rhinorrhoea will be cured by giving calcium and parathyroid, but the results in even this small number are at least encouraging.

* A paper read in the Section of Oto-Rhino-Laryngology at the Annual Meeting of the British Medical Association, Manchester, 1929.