but it is quite simple to graft a piece of omentum over the incision and thus prevent adhesions. The incision is made through the capsule to the fibroid, which as a rule shells out easily. If any difficulty occurs it is far easier and quicker to carry the incision right through the tumour, the cut surface of which is then gripped with a volsellum and easily shelled out, than to make a long search for the demarcation between the capsule and the fibroid. If there are two or more fibroids, and they are situated close to each other, it is easy to carry incisions down to the other fibroids from the bed of the first, and to shell them out through the same opening. If this is impossible multiple incisions are as easy to deal with as one incision.

In the case of a fibroid with a thick stalk the usual practice has been to excise the stalk as well as the tumour. This, however, leaves a large raw surface. It is preferable to make the incision convex on one side of the stalk so that there should remain a portion of the capsule to stitch over the raw surface. When many fibroids are removed a very shapeless uterus is left, but as involution takes place the most shapeless uterus soon recovers its shape, size, and functions. The uterus from which I removed nineteen fibroids was a shapeless mass, but on examination to-day a practically normal-sized uterus can be felt; this patient has had one child.

The great danger is haemorrhage. As a rule the bleeding can be controlled by pressure. If this is not sufficient, temporary pressure can be applied to the ovarian and uterine arteries with intestinal clamps, care being taken not to apply pressure to the Fallopian tubes by making an opening through the broad ligament, so that one blade of the clamp can be passed through it. The two great secrets of success are (1) to remove all fibroids, however small; only an educated finger can feel a small fibroid through the thickened uterine wall; (2) to obliterate all cavities from which fibroids have been removed; unless this is done there is danger of haemorrhage. Ligatures of silk should be used unless the uterine mucosa has been opened; then catgut is indicated. The sutures can be passed as mattress sutures or circularly round the cavities so as to obliterate them in layers. Finally, a layer of Lembert sutures should be passed through the peritoneum to cover the last line of sutures. Ochsner's recommendation, that sutures should be tied tight enough to stop haemorrhage, but not so tight as to bleach the tissues, should not be forgotten.

I think Bonney's advice, that in every case the uterine mucosa should be opened and the uterine cavity examined for thickening or polypi, is most important. I feel sure that menorrhagia following myomectomy is often due to simple causes which could easily have been put right at the time of the operation.

The number of fibroids removed from my series of 12 were: 19, 17, 13, 11, 8, 6, 6, 1, 1, 1, 1, 1. The time taken at the operation is an important matter. The shorter the time the less the shock, and the more fibroids can be removed. My times have been 22, 30, 25, 28, 20, 30, 21, 25, 28, 18, 39 (when an appendicectomy was also performed), and 25 minutes. The woman from whom 19 fibroids were removed has had one baby; the woman with 13 fibroids has had two children; one with one fibroid has had three children; and the one with 17 fibroids became pregnant but had eclampsia.

I have had in my series one cervical fibroid which weighed over 2 lb., and in one case I removed a large fibroid with red degeneration at the fourth month of pregnancy. The woman was taken with acute abdominal pains. The womb reached nearly to the ensiform cartilage and was very tender. The tumour shelled out very easily; it weighed over 2 lb. The pregnancy was not disturbed and the patient has since had two other children.

I have little doubt that myomectomy is the correct operation, not, it is true, for all fibroids, but for a very large number for which hysterectomy is done to-day. It seems but reasonable that an operation with so low a mortality, which cures the patient's symptoms in so large a proportion of the cases, and which permits of the continuation of child-bearing, especially in these days when children are so badly needed by the nation, should become the operation of choice in the not distant future.

THE TREATMENT OF THE PAROXYSMAL STAGE OF WHOOPING-COUGH.

BY

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WHOOPING-COUGH is still one of the chief killing diseases of infancy and early childhood. Hitherto there has been discovered no drug capable of allaying the paroxysms which, especially in infants, so often end in convulsions and death. The following series of observations was carried out at the instance of the late Dr. Claude B. Ker, superintendent of the Edinburgh City Hospital for Infectious Diseases, to find whether the reputation enjoyed by *Drosera rotundifolia* in Scandinavian countries¹ and amongst many general practitioners² of this country, as a specific in the treatment of the paroxysmal stage of whooping-cough, is justified, by putting the drug to a definite clinical hospital test.

Method.

1. Whooping-cough cases were selected in pairs, each pair being as similar as possible in respect of (a) stage of disease, (b) severity of spasms, (c) age.

2. Tincture of *Drosera rotundifolia* was given in known strength to one member of the pair, and using the other as a control, either with or without another antispasmodic, both were compared from time to time as regards improvement in the number and severity of the paroxysms.

To facilitate comparison the beds of each pair were placed beside each other in the ward when possible. As a continuous record of the paroxysms and whoops had to be kept day and night, a sheet of paper was placed in a prominent position in the ward, and the sister or nurse by day and the night nurse by night marked up the number of whoops in each paroxysm opposite the name of the patient immediately on termination of the paroxysm.

Drosera rotundifolia was given in the form and dose in which it is usually prescribed—that is, min. iij t.i.d. of a tincture of 1 in 10 proof spirit. The 10 per cent. tincture was made up in teaspoonful doses of varying strengths, and in four cases the dose was gradually increased by the addition of 1 minim daily to min. xij t.i.d. to test the effect of dosage.

The controls of the majority of the cases were treated with tincture of belladonna, the antispasmodic in which the late Dr. C. B. Ker had the most faith. The dose given was min. ij t.i.d., increasing by 1 minim daily till the pupils were widely dilated. In other cases the controls were not treated with any antispasmodic.

In all, 31 pairs of cases were investigated over different periods from February to April, 1925. In 11 of the 31 pairs of cases observations had to be abandoned on account of one or other of the pair dying or being removed to another ward (where control was not practicable) in less than three weeks after commencement of the drug.

Summary of Results.

(a) In 16 pairs of cases, using tincture of belladonna as the control, 8 showed greater improvement under tincture of belladonna, 3 under tincture of *Drosera rotundifolia*, and in the remaining 5 pairs of cases no appreciable difference between the two drugs as regards rate of improvement was found.

(b) In 4 pairs of cases, where the control was not treated with any antispasmodic, more rapid improvement was observed in the control of one pair, and in the other 3 pairs of cases no appreciable difference was found.

(c) In 4 cases where tincture of *Drosera rotundifolia* was increased from min. iij to min. xij t.i.d. by 1 minim each day, no difference in the rate of improvement was noticeable. In 2 of these cases the patients developed enteritis after about a week, which stopped in one case a day after the tincture of *Drosera rotundifolia* was stopped, but in the other case enteritis continued after cessation of the drug, and death followed twenty days later. In the latter case there was also a bronchopneumonic element.

Summary and Conclusions.

1. Twenty cases of whooping-cough in the paroxysmal stage were treated with tincture of *Drosera rotundifolia* and compared under hospital conditions with controls treated with tincture of belladonna or without any antispasmodic.

2. There is no evidence whatever to show that tincture of *Drosera rotundifolia* is a specific in the treatment of the paroxysmal stage of whooping-cough. On the contrary, its therapeutic action would appear to be negligible.

3. In doses beyond min. iij t.i.d. of the 10 per cent. tincture it is an intestinal irritant and is liable to set up enteritis, which in weakly bronchopneumonic cases may prove fatal.

Drosera rotundifolia.—Leaves of sundew yield a greenish-brown, odorous, very acid resin, glucose, citric acid, and probably malic acid and a ferment which converts albumin to peptone. (*National Standard Dispensatory*, 1905.)

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, 1911, i, p. 792. ² Ibid., p. 912.

Memoranda:**MEDICAL, SURGICAL, OBSTETRICAL.****RECTAL ANAESTHESIA.**

IN a memorandum (BRITISH MEDICAL JOURNAL, December 12th, p. 1123) Mr. Laurie has drawn attention to the advantages of "rectal etherization," and compares it favourably with administration by inhalation. He refers to the report of a case by Mr. Granville Chapman and Mr. McLellan (BRITISH MEDICAL JOURNAL, September 19th). Judging from these isolated reports it must be inferred that the method is not generally employed, and that the fear of unpleasant sequelae, generated by antiquated writings, still prevails. Dr. Boyd, anaesthetist to the Richmond Hospital, Dublin, drew attention to the many advantages of this form of anaesthesia at the Annual Meeting of the British Medical Association at Portsmouth in 1923.

In my own practice ether by the colon is used almost as a routine for operations about the head and neck. The comfort of a field free from the paraphernalia employed for inhalation anaesthesia cannot be exaggerated. It is the method *par excellence* for excisions of the tongue or jaw and for the removal of goitre or glands in the neck. A fortnight ago I removed a bullet which had been embedded for about four years in the base of the brain. It was a difficult and prolonged operation, but the anaesthesia induced by ether by the colon (Dr. Gaffney) was flawless, and added considerably to the comfort of the assistants, the sister, and myself. A tube, fastened in the patient's mouth, carried a gentle stream of oxygen from a cylinder near by. There was very little bleeding during the operation, and there was no vomiting or unpleasant after-effects.

The method was suggested as far back as 1847 by Pirogoff, but owing to maladministration was abandoned and only revived in recent years.

From a wide experience I can strongly recommend the method in suitable cases to those surgeons who have not yet given it a trial.

Dublin.

W. I. DE C WHEELER.

PREGNANCY COMPLICATED BY NECROTIC FIBROIDS.

ON January 23rd, 1925, a woman, aged 38½, was admitted under me into the Elizabeth Garrett Anderson Hospital, complaining of abdominal pain. It was chiefly on the right side of the epigastrium, was sometimes acute, and had been almost continuous since her last period in August, 1924. Examination of the abdomen showed the pregnant uterus (five and a half months) reaching to the level of the umbilicus. Apparently connected with the upper limit of the uterus was a firmer tender mass filling the epigastrium. A small rounded tumour could also be felt on the anterior surface of the uterus at the level of the anterior superior spine. The patient had previously had three miscarriages, the last ten years ago, and was anxious for a living child.

At the operation a large subperitoneal fibroid, 7½ by 4 inches, attached by a flat pedicle to the fundus of the uterus, and a second situated in the mid-line behind at the level of the internal os, about 3½ inches in diameter but not pedunculated, were removed. While with difficulty enucleating the second fibroid, some pus-like fluid escaped and the tumour was seen to be necrotic. The incisions in the uterus were closed by Lembert sutures of catgut. Two other quite small fibroids, apparently not degenerating and not in a position to cause any difficulty, were left in order not to weaken the uterine wall more than necessary. The pathological report states that both fibroids were entirely necrotic and infiltrated with pus cells. Unfortunately no cultures were taken.

The patient made an uneventful recovery and was later safely delivered of a living full-term boy by Caesarean hysterectomy, performed by Miss Chadburn at the same hospital.

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PULMONARY TUBERCULOSIS COMMENCING AT SEVENTY-SEVEN.

THE fact that the patient had reached an advanced age when he first developed symptoms of pulmonary tuberculosis is sufficiently uncommon for the following case to be recorded.

A man, aged 80, when first seen on August 12th, 1925, was suffering from advanced pulmonary tuberculosis. The general condition was very poor and the physical signs extended over the whole of the right lung and the upper half of the left. Tubercle bacilli were present in the sputum in considerable numbers. Careful questioning of the relatives elicited the fact that the patient had enjoyed excellent health and remained at work until three years previously, when, at the age of 77, he had developed pleurisy at the right base. Since that time he had suffered from the usual symptoms of pulmonary tuberculosis—cough, wasting, etc.—and had slowly gone downhill.

No family history of tuberculosis could be obtained, and the patient did not appear to have been in close contact with anyone suffering from the disease. He died on September 11th, 1925.

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A NOTE ON FROST-BITE.

SEVERAL years ago it was my lot to have under my observation about 400 cases of frost-bite among prisoners of war in France. Some of the patients stated that they first observed the condition when engaged in working parties, but as a rule it was first noticed while in the tents or huts, and at times occurred during sleep. Slight burning pain only was experienced, but within a short time the affected parts became discoloured and gangrenous. As a rule the lower extremities alone were affected; only in one or two cases were the fingers and ears affected also; and in the latter the lesions were superficial.

The condition varied from mere coldness and paleness in a toe, with or without blister formation, to massive gangrene of one or both feet, and in the comparatively slight cases the lesions were mostly bilateral and symmetrical, and consisted of small superficial gangrenous patches or ulcers on the inner aspect of the terminal phalanx of the great toe. Unilateral distribution was rare. Severe cases did not show this symmetry. One toe only might present the features of dry gangrene, but as a rule several toes were thus affected on both feet, and in a few cases all the toes were affected.

When the gangrenous condition extended beyond the toes it was of the moist variety, and even when the disease did not extend in continuity beyond the mid-metatarsus, isolated portions of gangrene, involving all the tissues, were present beyond this area in the sole or dorsum, and frequently in the heel. In the worst class of cases there was massive gangrene of one or both feet, with sickening odour. Pyrexia was unusual, and pain was absent except in rare cases; even then it was not severe or continuous.

In a case of massive gangrene of both feet there was marked oedema of one leg, and both knee-joints were distended with pus. In a somewhat similar case there was purulent effusion in