from x-ray photographs of the sella turcica and clinoid processes.

Signs of alteration in the pineal were found, especially in children and adolescents, with consequent symptoms of hyperpinealism and apinealism.

Alteration was found in the sizes of the testicles associated with ductless gland changes. Testicular atrophy was well seen in cases of apituitarism. From the histories of cases it was deduced that the stimulation of the sexual organs or its sudden cessation was associated with altered mentality varying from mania to exhaustion psychosis; altered mentality was also found in cases of double castration. Hypertrophy of the prostate was often found to be associated with altered mentality, and after complete removal cases were frequently associated with depression or melancholia.

Some 200 cases were examined for obvious signs of chronic toxæmia. Pyorrhoea and carious teeth were found to be a frequent accompaniment of lunacy in adults; in certain cases signs of chronic intestinal stasis and toxæmia were well marked.

Bacteriological examination of the faeces was made in some 100 cases for simple aerobic infections (apart from cases of asylum dysentery). Streptococci were found up to 100 per cent., and *Bacillus coli* was totally absent in some cases of mania. Streptococci were also found from vaginal swabs of puerperal mania.

Colons have been examined *post mortem*, and found to exhibit changes varying from normal to pericolitis, fibrous thickening of the walls of the gut, and atrophy of the mucous membrane, and in other cases dysenteric ulceration.

It is deduced that many cases of lunacy may be classified according to the toxæmia present and the change that it has induced in the ductless glands.

The effect of the toxæmia varies with the intensity, duration, and the age of the patient; the first effect is stimulation, the final fibrosis. In the fetus and in childhood an acute or chronic toxæmia may induce atrophy of a ductless gland, and consequent maldevelopment and idiocy. Three groups stand out when the pituitary, pineal, or thyroid is atrophied. Cases of dementia præcox exhibit a polyglandular syndrome, and different gland types are to be found, and the appearance of the cases varies whether the gland is hypertrophic or atrophic.

In adults certain toxæmias react on these glands, especially the thyroid and pituitary, and induce stimulation, hypertrophy, and, finally, atrophy. The alteration in the amount of secretion—whether excess, deficiency, or absence—induces an altered mental state, and this, combined with the effect of the toxæmia, renders the patient insane or liable to insanity from slight mental stress.

Alteration in the sexual glands, whether primary or secondary, leads to altered mentality up to insanity.

The lines on which beneficial treatment may be carried out based on the above pathology become obvious; the matter may be summed up by saying that toxæmias, if present, should be removed by medicinal or surgical measures, and the glands allowed to involute if they are hypertrophied, or, if they are degenerated with deficient secretions, these secretions should be supplied. Good results may be expected before cortical brain lesions have taken place.

Careful experimental treatment with control cases is at present being carried out for me at Bethlem Royal Hospital by Dr. Phillips, commencing with the simpler medicinal treatment.

In a work of this nature due credit must be given to those who have so kindly given me pathological material and access to clinical cases. Full acknowledgment will be made when the work is published in detail. Dr. Braxton Hicks has supervised the collection of pathological material during the last year.

M. ÉTIENNE LAMY, perpetual secretary of the Académie Française, has given £20,000 to that body for the foundation of a prize to be applied for the benefit of large families in need of assistance.

JEFFERSON MEDICAL COLLEGE, Philadelphia, was founded in 1826. It has been a chartered university since 1838 and has graduated 13,278 doctors of medicine, of whom 4,678 are in active practice. Efforts are now being made to secure an additional sum of £400,000 for its permanent endowment.

THE TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.*

BY

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Introduction.

DISCIPLES of the healing art are not infrequently taunted by the laity because their treatment of common ailments is far from satisfactory.

That this is true to a certain extent cannot be gainsaid, for what is of common and everyday occurrence seems not to stimulate the ardour of the scientific investigator, who looks further afield to discover amidst the rarer morbid processes some fruitful source of inquiry. There is a tendency, too, in clinical work, to spend more time and thought over what are termed "interesting cases," and to treat common ailments on a routine plan. Yet such ailments are all-important to the patients, the more so because of their frequent occurrence.

Backward displacement of the uterus is a common ailment which, from its frequency and importance, demands the closest investigation and study in order to decide what measures of relief may be afforded to the unfortunate sufferer.

Happily the treatment has markedly improved in recent years, owing largely to the advances made in gynaecological surgery and to a better understanding of the causation and sequelae, so that women can now be promised a restoration to health which was not attainable in former years.

When a backward displacement is discovered, it is necessary to determine the cause, for this often affords important guidance to correct treatment.

Congenital Displacement.

The displacement may be congenital, for it has been discovered in the newly born.

I have found undersized retroflexed uteri not infrequently amongst Polish Jewesses of the hospital class, who seek treatment for sterility, and in whom there were no symptoms pointing to any uterine trouble. The association of under-development of the uterus, ante flexion, dysmenorrhoea, and sterility is well known, but I have rarely found small-sized retroflexed uteri amongst British women. Such examples represent the true congenital backward displacement, and, although fully developed uteri displaced backwards may be found in young girls, it is more than probable that the displacement is acquired. In another type met with in the newly born the cervix is much elongated, the uterine body small, and the organ is retroverted; and in yet another type the uterus is retroverted and ante flexed. Needless to say, unless symptoms result no treatment is indicated.

Excessive Uterine Mobility.

Again, excessive mobility of the uterus may be encountered, so that it may at one examination be found displaced backwards and at another occupying an anterior position.

Traumatic Displacement.

The part played by traumatism in the production of backward displacement has been variously estimated from time to time, but from a close study of this subject I have come to the conclusion that in the causation of backward displacements in virgins and nulliparae, and in parous women too, the possibility of traumatism as an etiological factor must constantly be borne in mind.

I have seen backward displacement of the uterus result from accidents in the hunting field, falls on the buttocks, strenuous exercises at school, and recently after strenuous "war work." When the extreme mobility of the normal uterus is remembered it is indeed surprising that this accident does not happen more frequently. Yet it is stated to be very rare, and has even escaped mention by many writers.

The acute displacement is an example of a true intra-peritoneal hernia in which the body of the uterus becomes incarcerated in the pouch of Douglas.

* A paper read before the Harveian Society.

The symptoms suggesting the possibility of an acute traumatic backward displacement may be thus briefly summarized: Pain is referred to the lower sacral region and coccyx. If the woman attempt to stand there is slight nausea and vague distress in the epigastrium. Pain is often localized over the sacro-iliac synchondrosis or down the sciatic nerve. Defaecation may be painful, and headache, generally occipital in type, may be a prominent symptom. Added to these there may be distressing vesical irritability, whilst the menstrual type becomes altered. Uterine haemorrhage may follow the accident or menstruation becomes painful, prolonged, and too frequent. Amenorrhoea has been noted. If treated promptly, there is no change in the menstruation. There is a characteristic posture and gait like traumatic lumbago. The shoulders are stooped forwards, the head carried slightly forwards, the dorsal and lumbar portions of the spinal column being held in a position of slight kyphosis.

The treatment consists in replacing the uterus under anaesthesia, followed by rest in bed for at least a fortnight.

The majority of backward displacements in virgins and nulliparae are, however, encountered in what may be termed the chronic stage.

Treatment of Backward Displacements in Virgins.

When symptoms suggesting some pelvic disorder are met with in a virgin a recto-abdominal examination, preferably under anaesthesia, should be made. If a backward displacement be discovered, it is necessary to determine whether the displacement alone is the cause of the symptoms. A careful abdominal examination should be made to make sure that there is no visceral ptosis (stomach, intestine, or kidney), at the same time noting the condition of the abdominal wall and the general muscular development.

If the woman be of the thin neurotic type, exhibiting various so-called reflex nervous phenomena, pains of various kinds, fatigue after slight exertion, gastric troubles, and constipation with feeble muscular development and visceral ptosis, the uterine trouble is only a small part of her disease, and treatment by pessary or operation would do little good.

For such women local treatment should be avoided, and massage, exercises, fresh air, and appropriate employment will be most helpful. For those in whom the displacement is not associated with visceral ptosis I believe surgical treatment affords the greatest relief.

It is often urged that the woman should be told to forget about her displacement, or if it is not causing marked symptoms it should be left alone, or if discovered accidentally the knowledge should be withheld from her, or, again, she may be told she is neurotic and fanciful, when her sufferings are very real.

Much depends on the attitude the medical attendant adopts when confronted with disorders of this kind. That a backward displacement of the uterus has a profound influence on a woman's health and wellbeing is evident from the extraordinary benefit which follows its cure by operation. And although in my earlier days I approached this subject with a sceptical mind, I am now convinced of the far-reaching effects produced by a backward displacement, and can fully credit the importance given to this subject by our medical forefathers.

Further, it is frequently advised that nothing should be done if symptoms are absent. To this I reply that sooner or later a backward displacement will cause symptoms, and that as a spontaneous cure is not to be expected the sooner the displacement is remedied the better for the patient.

Apart from prevention, the trend of all modern treatment is to apply the remedy in the early stages of disease in order that the malady may be effectually checked. The same principle should therefore be applied in the treatment of backward displacements.

The modern gynaecological surgeon has had the great advantage of being able to inspect the pelvic organs through an abdominal incision, and so obtain a knowledge of living pathology which was denied to his forefathers, who relied solely on clinical or *post-mortem* evidence. From actual inspection on the operating table I have satisfied myself of the frequency with which tubal inflammation accompanies a chronic backward displacement, how the appen-

dages become congested, and adhere to neighbouring bowel or pelvic peritoneum, and how the uterine body becomes enlarged and congested.

It is assumed by some writers that the uterine congestion is due to the body of the uterus being gripped by the peritoneal folds bounding Douglas's pouch. I have paid some attention to this subject by observing the actual conditions when the abdomen was opened. I have seen the uterine body deeply congested, dark purple in colour, on many occasions lying perfectly free from the folds of Douglas, and also uteri whose colour closely resembled the normal being "gripped" by these folds. Moreover, these folds are easily stretched, and the distance between them varies considerably in different individuals, whilst childbearing exerts an important influence.

I believe the uterine congestion is due to the torsion of the broad ligaments tending to retard the venous return, and that where this congestion is only slight in amount the torsion is not so marked, and the circulation better able to accommodate itself to the altered conditions. Needless to say, when the uterus is infected another factor comes into play.

Slow and insidious changes occur in the uterus and appendages which sooner or later will cause symptoms both local and general.

For all these reasons a backward displacement should not be left alone, but should be promptly remedied. In a virgin it is much better to remedy the displacement by an operation than to introduce a pessary. It is surely better for her to have a neat abdominal scar than a torn hymen and a stretched septic vagina.

Treatment of Backward Displacements in Nulliparae.

In the nulliparous married woman the problem is a little different, for should she become pregnant this may lead to the cure of her displacement. Unfortunately, however, although pregnancy may occasionally occur in a uterus displaced backwards, as a rule the displacement hinders conception, and for this reason the woman may present herself for examination.

When an examination is made and a backward displacement is discovered, then the mobility of the uterus should be tested. Can it be replaced into the normal position or is it fixed?

A useful clinical division of backward displacements is into three classes:

1. Those in which the uterus is replaceable without anaesthesia.
2. Those in which the uterus is replaceable with anaesthesia.
3. Those in which the uterus is fixed.

The uterus may be movable to a certain extent without being replaceable in its normal position. Such movement is permitted when the adhesions are not numerous and are filamentous in character. Again, the woman may resent any attempt at moving the uterus, owing to the tenderness of the uterine body or the prolapsed appendages. Such uteri are readily replaced under anaesthesia. If, in addition to tenderness, the adhesions are numerous and strong, the uterus remains fixed even under anaesthesia.

To determine if the uterus be replaceable is the first step in treatment. If replaceable, treatment by pessary may be tried, whilst if the uterus be fixed a pessary will cause pain through pressure on inflamed or sensitive structures.

Method of Replacing the Uterus.

(a) *Bimanual Replacement.*—The uterus may be replaced by the internal fingers pressing the fundus upwards and forwards until it is further assisted by the external hand, the internal fingers being then used to press the cervix backwards and upwards.

(b) *Replacement by the Aid of a Volsella.*—Where there is difficulty in carrying out bimanual replacement the anterior lip of the cervix should be seized with a volsella and the uterus pulled downwards, and then the cervix pushed upwards and backwards, thus causing the fundus to rotate forwards. As a rule, this alone will suffice, but if there be any difficulty, the finger or fingers may be used in addition to push the fundus forwards.

(c) *Replacement by the Uterine Sound.*—The usual method recommended is replacement by means of the uterine sound. With the sound you may infect the uterine

cavity, you may perforate the fundus, or you may produce abortion in a gravid uterus. For all these reasons the sound should be avoided. Nothing can be more reprehensible than the repeated straightening of the uterus by means of the uterine sound, for the risks of infection are very real, and tubal inflammation may follow.

Treatment by Pessary.—Having replaced the uterus, it is maintained in position by a pessary. The capacity of the vagina will have been gauged by the former examination, and a pessary of suitable size should be selected or a cast of the upper portion of the vagina may be taken by means of a thin rubber ring previously immersed in boiling lotion to make it soft, and a pessary of corresponding size can be procured or, if necessary, made. The most suitable variety of pessary is the Hodge or Albert-Smith, made of hard glass or vulcanite. It should be introduced in the antero-posterior diameter of the vulva, the index finger pressing the upper bar backwards and upwards into the posterior fornix. The pessary should be grasped by the vaginal vault, and should not cause pain or discomfort. Before leaving the examination couch the woman should be asked to "bear down," in order to see whether or not the pessary can be pressed out. It is well to request her to report herself in three or four days to ascertain if the pessary is causing any pain or interference with micturition or defaecation. During the wearing of a pessary a daily vaginal douche is necessary, and for this purpose warm saline solution is useful, as it does not interfere with conception. The pessary should be changed every two to three months, when the opportunity may be taken to see if its use may be discontinued or if a smaller or larger size be required.

When asked the question, How long has the pessary to be worn? the answer is, Until the uterus can maintain itself in the normal position. That may be months or years, or it may never maintain itself in the normal position.

Women are often told that they will be cured at the "change of life." This is true when the uterus becomes smaller and the upper portion of the vagina contracts, or when, from an increased deposit of fat, the retentive power of the abdomen is increased. But in parous women with a relaxed vagina and a gaping vulva the condition becomes worse.

I think, therefore, that the prospects of pessary treatment should be put before the patient, and she should be left to decide whether she will endure the inconvenience of wearing a pessary or have surgical treatment.

A vaginal pessary is an unclean thing, requiring constant attention, and as it acts by stretching the vaginal vault it is in reality favouring the condition it is supposed to remedy. As cures by pessary treatment are not numerous, I believe the interests of the patient are best served by advising appropriate surgical treatment. Moreover, the social status is an important factor, for the hard-worked woman has not the time to give the attention and care which treatment by pessary demands.

The uterus may be found tilted slightly backwards in association with a congenital hypertrophic elongation of the cervix, a condition frequently mistaken in practice for uterine prolapse. A supravaginal amputation of the cervix followed by accurate suture cures the condition, and pregnancy has followed this operation. When met with in a virgin the same treatment is employed.

Treatment of Backward Displacement when Pain and Tenderness Exist.

When the body of the uterus is tender and any movement of it is resented, before attempts at replacement are made treatment should be applied. The best is the "ichthyol treatment." For its successful application the patient should rest in bed for a fortnight or three weeks, during which time tampons of glycerine and ichthyol 10 per cent. are inserted into the vagina every other day and a saline douche given once a week, to clear away the excess of ichthyol. Ichthyol vaseline 10 per cent. is rubbed into the flanks, and ichthyol pills 2 to 3 grains given three times daily. It will be found that after this treatment the uterus can be easily replaced and a pessary inserted.

When the uterus is enlarged and there is excessive and irregular menstruation, probably indicating that there is some adenomatous growth *in utero*, the curette should be

employed to remove this growth under anaesthesia, and after all discharge has subsided a pessary may be inserted.

It is here that the operation of curetting may be usefully employed, but only if the menstrual loss is markedly increased, as it is an operation the indications for which are very definitely limited, and it is far too frequently done at the present time.

From a series of cases collected by the late Dr. Herman he estimated that in 40 per cent. menstruation was increased, sometimes in quantity, sometimes in frequency, sometimes in both. Occasionally it is diminished. What is frequently noted is a "relative retention" of the menstrual flow, so that it is prolonged as a brownish discharge for two or three days, and in the intervals between menstruation a uterine discharge, mucoid or muco-purulent, comes away in gushes.

All these symptoms disappear when the uterus is kept in position, and no curetting is required. They prove, however, the evil effects which result from a backward displacement.

The wearing of a pessary is only a part of the treatment of women with backward displacements, and general treatment should always be adopted. For this purpose tonics, exercise in the fresh air, graduated exercises, massage, and dieting are most helpful. The appropriate exercises should be written down and carried out by the masseuse under medical supervision.

The somewhat narrow outlook possessed by many of those who attempt to treat these disorders in women has been the means of diverting countless numbers of patients into the hands of various types of unqualified practitioners. Many patients seem to take a delight in informing medical practitioners that they have tried many doctors without obtaining any benefit, and that they have been cured by massage and exercises. It behoves us all to take the hint, and remember that to strengthen the abdominal muscles and to favour the deposition of fat is the best way of increasing the retentive power of the abdomen.

(To be continued.)

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE INCUBATION PERIOD OF PARATYPHOID B FEVER.

THE following case is of interest as *Bacillus paratyphosus* B was found in the stools some time before the onset of the disease.

The patient, No. 403, Pte. McK., was admitted on September 23rd, 1915, suffering from "dysentery." A specimen of his stools was sent to the laboratory next morning; amoebae were not found. On plating the stool dysentery bacilli were not found, but *Bacillus paratyphosus* B was isolated.

It was thought that the patient might be convalescing from paratyphoid B fever, so a serum reaction was carried out by the microscopic method with negative results.

Twelve days after admission, on October 5th, his temperature began to rise. A blood culture was made on October 7th, and *Bacillus paratyphosus* B was isolated. On October 25th a serum reaction was again carried out, and agglutination of *Bacillus paratyphosus* B was found in a dilution of 1 in 1,000 by the microscopic method.

This case shows that *Bacillus paratyphosus* B can be present in the intestine at least twelve days before the onset of the fever, and that cases which develop in hospital are not necessarily infected in hospital.

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H. E. ROAF, Captain R.A.M.C.(T.),
M.D., D.Sc.

FIELD MARSHAL VON MOLTKE, who died suddenly in the Reichstag on June 18th, was a supporter of Christian Science, of which his cousin, the heir of the conqueror of 1870, is the official head in Germany.

THE 4th London General Hospital has added one more to the number of military hospital magazines. Two numbers have appeared, May and June. Its title is *The Fourth*, and it presents a cheerful countenance.