masturbates, and at times he is "giddy." This lasted for a day or two days.

He says there is absolutely no truth in the stories he told of his indecent behaviour with children in Ceylon. He was employed in Ceylon as a "boy." There were three children in the house, one boy and two girls, but he had nothing to do with them. He never saw the mistress of the house or the ayah undressed. No men from Ceylon came to him in Batu Gajah. From this on he continued to improve and began to work in the kitchen. He gained 10 lbs. weight and lost his depression. He still believes in the women's visit though they stopped some time since. There were three Cingalese women, but that is all he knows about them. They used to undress and he had connection with them one after the other. He was kept constantly under observation, but was never seen to masturbate. This is remarkable for though crafty, the masturbator can usually be caught, moreover, I believe the confession of masturbation was true. It is probable that he had always practised masturbation and when he became ill from malaria his ideas took a sexual turn and he began to build up delusions on his masturbation and his lustful thoughts towards the children, the mistress and the ayah.

One is tempted to believe that the nocturnal visits were more in the nature of dreams than hallucinations or delusions.

THE TREATMENT OF UNCOMPLICATED RETROVERSION OF THE UTERUS BY THE 'SLING' OPERATION.

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Being, in substance, the Thesis read at Cambridge, for the degree of M. B., on August 10th 1912.

FOR some years past many gynæcologists have been impressed with the numerous disadvantages of long-continued treatment of backward displacements of the uterus by pessaries.

The ills following the neglect of scrupulous cleanliness, the necessity of changing the instrument at frequent and regular intervals, the possible discomfort to the wearer, and the 'sentimental' objections to the carrying of such an instrument, all combine to make the discovery of a simple and efficacious operative measure a very welcome one, both to the gynæcologist and patient.

Since 1906 Dr. W. Blair Bell, to whose courtesy I am indebted not only for permission to record his Hospital cases culled from the gynæcological reports of the Liverpool Royal Infirmary, but also for a very carefully compiled list of his operations performed in private, with their results and after-histories, has adopted a simple and efficacious procedure which appear to meet the demand alluded to.

The simplicity of the operation will be shown from the description; and its efficacy I venture to think will be demonstrated by the results of the cases I shall quote below.

The subject will best be considered if the operation be first described; the indications and contra-indications for its use be then discussed, and finally cases in which it has been employed quoted, with their symptoms, and wherever possible their after-histories.

It is always deemed advisable to get the patient under hospital or nursing home régime for a full 48 hours before the operation in order to permit of a thorough preparatory examination, and to ensure that the bowels should be thoroughly well emptied,—for constipation is an almost constant symptom in retroversion. An aperient, therefore, is administered on the night of admission, and throughout the next day the patient is kept on a light full diet, chosen for its small fæcal residue, as well as for its nourishing properties. The night before the operation a smart purgative is administered, the pubes shaved, and a 2 per cent solution of iodine in rectified spirit applied to the abdomen from above the umbilicus to the upper limit of the vulva—on the Mons Veneris. The following morning, after the bowels have reacted to the aperient, a copious soap and water enema is administered, to complete the evacuation of the alimentary tract.

It is our experience that for this, as for other pelvic operations performed by the abdominal route, the most satisfactory anæsthesia is obtained by the administration of ether by the open method, with a preliminary injection of morphia gr. 1/4 and atropin gr. 1/100; the abdominal relaxation thus obtained being very good and the after effects being almost negligible.

A median sub-umbilical incision of about four inches in length is made through skin and superficial fascia, and the aponeurosis of the external oblique cleaned, and the linea alba defined. This latter is then incised and secured in tissue-forceps and the bellies of the two recti muscles separated. The parietal peritoneum and extra-peritoneal fat is then pinched up in two pairs of forceps, which are held upwards on the stretch, and between them the incision into the peritoneal cavity is made.

The table is now tilted into the Trendelemburg position and, with two fingers of the left hand inserted first upwards and then downwards to guard the intestines from injury, the peritoneal incision is enlarged upwards and downwards to almost the entire length of the skin incision.

Some form of gynæcological retractor is now inserted into the wound, and the intestines are packed off from the pelvis by a rubber pack. Free access to the pelvis having thus been obtained any obvious cause of the displacement—*i.g.*, peritoneal adhesions — is dealt with and the uterus freed. The round ligaments on either side are now caught up, and a stout silk ligature passed round each, by means of an aneurism-needle, at about 1½ inch from their uterine insertion.

These ligatures are secured by the assistant in his left hand and traction excited on them in the direction of the patient's feet, thus holding the uterus forwards and upwards. A pair of ligature forceps is next thrust through both layers of the broad ligament from behind forwards and outwards in such a manner as to perforate the posterior layer of the broad ligament near the corpus uteri, beneath the ovarian ligament, and the anterior near the spot where the ligature has been passed round the round ligament.

The ends of the ligatures on the round ligaments are grasped by the ligature forceps, and pulled back along its path followed by a loop of round ligament.

A similar proceeding is carried out with the round ligament of the opposite side, and the two loops of round ligament united to one another by a supporting loop of catgut, tying them together in the mid-line, the silk ligature being now discarded.

These loops of round ligament are next permanently secured in their new position by fine silk sero-muscular sutures uniting them to the back of the fundus uteri, on each side of the mid-line.

The uterus is now seen to be firmly tilted forwards by the round ligaments, and, further, the ovarian ligaments and the Fallopian tubes have now to pass outwards over a taut 'suspension' bridge formed by the loop of round ligament, with the result that all but extreme cases of prolapse of the ovaries are corrected at the same time; and extreme degrees only need a slight 'tuck' in the ovarian ligament by a silk suture to be completely held up. Any other contributory causes of retroversion which are found should now be treated, *e.g.*, lax utero-sacral ligaments may be shortened—and any tubal condition dealt with as occasion demands.

The abdomen is then closed layer by layer; the parietal peritoneum, by a continuous cat-gut suture, the aponeurosis of the external oblique by some form of 'overlapping' suture and the skin closed according to individual taste, our experience being that the most inconspicuous scar is obtained by a continuous subcutaneous suture with a needle at each end, inserted as a 'criss-cross' boot-lace is inserted into a boot, and pulled out and tied off at the lower end of the wound.

If the patient be obese, or the tissues seem limp, 2 or 3 through and through supporting sutures are put in after closing the parietal peritoneum.

Though the operation has been detailed at some length, it will be seen that the essentials are few in number and easily performed, in fact, they may be summarized as follows :—

1. Catch up the round ligaments in ligatures.
2. Pass ligature forceps and draw back round ligaments.
3. Secure loops of round ligaments in place.
4. Correct any co-existing abnormality.

As regards after-treatment, shock is prevented by the administration per rectum of normal saline, 1 pint when returned to bed and at least 10 oz. every 4 hours for 24 hours afterwards. In this, as in the other round ligament operations, there is usually a considerable amount of 'dragging' abdominal pain on coming round from the anæsthetic, and morphin ¼ grain is usually not withheld on the night after operation. Flatulence may be distressing the following day, due to the disturbing of the intestines on insertion of the pack, but it has been found that with the rubber pack, which does not injure the peritoneum, there is considerably less suffering of this kind. Complete comfort usually follows the doses of calomel and sodi bicarb, āā 1 grain at hourly intervals which are given on the second evening and are followed by a saline purgative early next morning. This may be, and usually is, supplemented by one or more turpentine enemata during the night.

It now remains to discuss the indications for the employment of this operation.

Briefly, the advatages claimed for it are :—

1. That it effectually corrects the retroversion, and at the same time cures prolapse of the ovaries with the accompanying œdema, pain, and dyspareunia.

2. That it is simple and easy to perform, and at the same time adequate.

3. That it does not interfere with the normal progress of a subsequent pregnancy and parturition.

4. That it does not tend towards the formation of peritoneal bands, with subsequent risks of intestinal obstruction.

5. That it is universally applicable and adequate except in such cases as are combined with prolapse.

Let us now consider other operative measures which have been described, and compare them with this 'sling' operation.

They are :

Vaginal Fixation.—This operation is not so easy to perform and is absolutely contra-indicated in the child-bearing period, whereas the 'sling' operation, since the round ligaments enlarge and involute *pari passu* with the uterus should have, and does have, no adverse effect on subsequent labours.

Vaginal shortening of the utero-sacral ligaments has no correcting influence upon the associated retroflexion, and is incomparably more difficult to perform.

Alexander's operation is only applicable in simple mobile cases—often symptomless, and, moreover, the anteversion is less complete, since the pull on the round ligaments is lateral and not forwards in direction.

Ventri-suspension has been much employed, but since the peritoneal adhesions are stretched during a subsequent pregnancy, and fail to contract during involution, they do not give support when support is most needed—in the puerperium. Moreover, these loose peritoneal bands invite intestinal obstruction, by the passage, and subsequent constriction round them of loops of intestine.

Ventrifixation to the abdominal parieties cannot safely be performed in the child-bearing period.

Wylie's operation.—Intraperitoneal shortening of the round ligaments—admits of the correction of any co-existing disease, but is liable to the same objection, that was applied to Alexander's operation,—*viz.*, that the pull is lateral in direction, and not forwards, and, therefore, that anteversion is less complete.

Gilliam's operation satisfactorily cures the displacement, but seems unnecessary for retroversion uncomplicated by descent of the uterus, since it is less easy to perform. These, then, are the advantages which are claimed for the 'sling' operation. It now remains for us to see in what class of cases it is indicated.

For purpose of treatment, we may divide uncomplicated retroversion into the following heads with its associated retroflexion :—

1. *Congenital.*
2. *Acquired* which may further be considered as sub-divisible in three further varieties—
   (*a*) Puerperal;
   (*b*) Inflammatory;
   (*c*) Mechanical (*i.e.*, due to pelvic tumours, full bladder, etc.)

With the *congenital variety* we have little to do. It is often symptomless, and when there are symptoms the most prominent is dysmenorrhœa, which may be cured by other methods.

Should pregnancy occur, the displacement usually cures itself, and after involution remains permanently cured.

If after labour the displacement recur, it is treated as a puerperal case.

The *puerperal form* of the acquired variety of retroversion comprises the great bulk of the cases with which the gynæcologist has to deal. It is very common for the lower uterine segment, which during pregnancy is so markedly softened, to fail to regain its tone, with the result that the fundus uteri drops backwards, and, as a later stage of the same affection, becomes increasingly bulky and œdematous, and exerts an increasing drag on the involuting utero-sacral ligaments, with consequent retroversion, the cervix finally coming to point forwards, and the bulky fundus sagging into the pouch of Douglas.

This condition is aggravated by the almost invariably associated constipation of women,—both as regards increasing the pelvic congestion, and consequently the œdema of the fundus, and by actual mechanical pressure of the loaded pelvic colon upon the retroflexed fundus uteri.

This variety of case, if identified early, *i.e*, within a month to six weeks of labour, can usually be treated without operation. Careful regulation of the bowels by such drugs as parafinum liquidum, as recommended by Arbuthnoth Lane, combined with the insertion of an Albert-Smith, or Smith-Hodge Pessary, and the administration of such uterine tonics as Calcium lactate or Ergot, will usually effect a permanent cure, the condition very rarely tending to recur.

Should, however, recurrence take place after a clear two months' trial of such a course of treatment, or should

the case be of such long standing as to have pronounced menstrual symptoms—menorrhagia or metrorrhagia,—or should the condition be associated with a prolapsed, tender, œdematous ovary,—operation on the lines I have described is indicated, and it is in these cases that perhaps the best immediate and permanent results are seen.

The instant relief of the persistent backache which is one of the most insistent and distressing symptoms of the complaint is very striking, and, after three or four days have elapsed after operation, the patient suddenly realises that the dragging pain in one or other (or both) of her groins, as the case may be, has ceased and she will often remark that she "has not felt so well for years."

In Retroversion of Inflammatory Origin it is the operation of election, except in those extreme cases following severe pelvic peritonitis, whether of tubal, appendicular, or more remote origin, where the whole uterus is bound down by dense adhesions; when better results are obtained by Gilliam's operation.

In cases where the adhesions are easily dealt with, and not too plentiful, the 'Sling' operation yields admirable results.

In Mechanical Retroversion we meet with the condition caused (a) by *Constipation*. In this class of case, if the history is a recent one, it is worth trying a pessary for two months combined with rigid regulation of the bowels, and uterine tonics such as Calcium lactate or Ergot.

Should the condition recur on removing the pessary, after two months, then operation is indicated, and the results in this type of case are excellent.

(b) *A Bladder Chronically overdistended* may cause retroversion, but such is usually slight in amount, and disappears after treatment of the cause. Should it persist, however, and give rise to symptoms, it is best corrected by operation.

(c) *Any mechanical cause* that from its very nature required operative interference, such as pelvic or abdominal tumours, requires, of course, supplementary correction of the displacement at the same time, thus guarding against any future return of the mischief.

Summarising then, it is claimed for the 'Sling' operation that, briefly, it is indicated in *all* cases of persistent retroversion and retroflexion, with the exception of those cases which are combined with any degree of prolapse, or those in which the adhesions causing the retroversion are so dense and extensive that a safer and more permanent anchorage is deemed advisable for the uterus after freeing it from its imprisonment.

Having endeavoured to indicate the class of case that this operation claims to benefit, and to rescue efficaciously and permanently from the manifold discomforts and drawbacks of a "pessary life," I now turn to the records of cases so far performed by Dr. Blair Bell, with a brief resumé of their symptoms, and, wherever these have been attainable, their after-histories up to the date of writing. Many of these patients have been under my own personal care, and I am able to speak from my own knowledge of the improvement they have experienced. For easy reference, I have summarised in a table the clinical histories and results of the following cases. Taken details of any particular case can be seen on referring to the histories in narrative form.

Case 1.—Mrs. E. McG., æt 21. Was admitted to hospital on 8th February 1907 for "Pain in the back and stomach, especially at the periods."

Her menses were normal in frequency and amount, but she had severe dysmenorrhœa, and leucorrhœa between periods. Seven months before admission patient had been given a ring pessary, without relief, but since wearing it her menses had come on at 3 weekly intervals instead of the usual 4.

Per vaginam.—Uterus retroverted, retroflexed, and mobile. Right ovary prolapsed.

On 11th February a 'Sling' operation was combined with right salpingectomy for hydrosalpinx.

On 22nd February omentum was found herniated through scar with vomiting and signs of obstruction. This was treated by freeing the omentum and entero-anastomosis, and recovery was complete. Patient left without symptoms on 12th April 1907 for a convalescent home.

This case reported herself quite well in July 1913, and examination revealed that the uterus was in excellent position.

Case 2.—Mrs. E. T., æt 44. Was admitted 27th August 1907 for "pain in the right side, worse after exercise."

Eight years previously after the birth of her last child patient had parametritis, which incapacitated her permanently from work. The pain started at the time and persisted in spite of two operations performed at another hospital, the nature of which she did not know. She had chronic bronchitis and emphysema.

Per vaginam.—Cervix lacerated and pointing forwards. Uterus fixed in an indefinite mass and lying backwards. On 18th September after treatment of bronchitis by medicine the abdomen was opened, and the uterus, right tube, ovary and verniform appendix were found to be all bound together by adhesions. The appendix, tube and ovary were removed, and a 'sling' operation performed.

Recovery was interrupted by an attack of broncho-pneumonia following the anæsthetic; which, however, yielded to treatment.

On 14th October patient left for a convalescent home, where her recovery was completed. All symptoms were completely relieved.

Case 3.—Mrs. C. S., æt 35. Was admitted on 6th August, 1907, for "hæmorrhage per vaginam and pain in bottom of the back." She had seven children, the last born one year previously—six months previous to admission patient had a fall and a week afterwards had a severe hæmorrhage per vaginam and at intervals subsequently had 3 or 4 more severe floodings.

Per vaginam.—Uterus inclined backwards, Small cystic rounded lump felt behind uterus which, under an anæsthetic, was proved to be the left ovary.

On 12th August a 'sling' operation was performed, combined with left oöphorectomy, the left ovary being cystic.

Patient was discharged cured on September 2nd, 1907.

A good example of the effect of traema upon a uterus, flabby from much child-bearing.

Case 4.—Mrs. A. G., æt 35. Was admitted on 9th November 1907, for "pain in the side" and sterility.

Patient had been married 18 months, and three months previous to admission had a dull aching pain in the left side and iliac fossa. Resting relieved the pain. Menses were unaffected.

Per vaginam.—Uterus retroverted and flexed. Left ovary prolapsed.

On 11th November a 'sling' operation was performed, and on 6th December patient left hospital relieved of her symptoms.

Case 5.—Mrs. M. P., æt. 48. Was admitted to hospital on 10th August 1907, for being "continuously unwell."

Her menses had been regular till her marriage 12 years before admission, since then they had been irregular. There had been almost continuous bleeding since a miscarriage, which took place five years before her admission. Six weeks before entering hospital a pessary had been inserted, the bleeding being less afterwards. She described herself as having bilious attacks at her periods, and incontinence of urine since the pessary was inserted.

Per abdomen.—Tenderness in epigastrium and both iliac fossæ.

Per vaginam.—Cervix forwards, uterus backwards, fixed and tender, some thickening between the uterus and rectum. On 12th August a sling operation was performed, the uterus on opening the abdomen being found to be movable and not fixed.

On 30th August patient was discharged.

On 14th September 1908, this patient was re-admitted, having had pain since she left hospital a year previously. The bleeding had been cured, in fact, she had menstruated every six weeks since her discharge. Three months after her discharge she had had an attack of peritonitis, since when the pain had been aggravated.

On examination the uterus was found to be backwards in position and tender.

On 16th September the abdomen was opened, the uterus was found fixed backward in adhesions, which were freed and Gilliam's operation was performed. On 7th October patient was discharged, her symptoms being relieved.

On application for particulars of the patient's progress, I was informed that she had unfortunately died from cerebral hæmorrhage in December 1911 Her symptoms, however, had remained relieved after the second operation. This case is one of the earliest in which the 'sling' operation was performed, and here as in contemporary cases, the round ligaments were stitched to the back of the uterus *at the level of the internal os* instead of to the back of the fundus. It is this case, which showed it to be possible for the fundus to sag back over the round ligaments and pull back the uterus with it, that suggested the now invariable practice of stitching the loops of round ligaments high up to the back of the fundus.

The above is the only case of this complication up to date, but it served a good purpose in demonstrating an improvement in technique.

Case 6.—Mrs. M. T, æt 20. Was admitted on 27th August 1907 for "pain in the stomach."

For some months this pain had been persistent, and aggravated by menstruation, which was more profuse than normal. There was hysterical aphonia for three weeks previous to admission which disappeared after operation.

Per vaginam.—Uterus backwards, with an indefinite swelling behind and to the right of the fundus. On 29th August the abdomen was opened, and a cystic right ovary removed. The retroverted and flexed uterus was slung forwards. Recovery was marked by post-anæsthetic pneumonia, but was eventually complete and patient was discharged cured on 29th September 1907. Patient recently reported that she had become pregnant after leaving hospital and that the labour was notably easy.

Case 7.—Miss I., æt. 36. Was operated on 2nd February 1908. Her symptoms being menorrhagia and abdominal pain from appendicectomy which had been performed in 1906.

Per vaginam.—The uterus was found to be retroverted and fixed. At the operation adhesions were separated, the uterus being freed, and a 'sling' operation performed. Recovery was uninterrupted and at the date of writing this patient is very well, and may be counted as cured.

Case 8.—Mrs. E. J. was admitted on 6th March 1908, for "pain in the right side."

For two years she had had pain in the right side unaffected by menstruation. She had menorrhagia for the same length of time associated with the passage of clots. Her last child had been born two years and three months. Leucorrhœa between periods.

Per vaginam.—Uterus tender and felt completely in posterior fornix.

On 9th March a 'sling' operation was performed, and on 6th April the patient left hospital cured.

Case 9.—Mrs. M. J., æt 38. Was admitted to hospital on 22nd August 1908, suffering from "pain in the right side."

She had seven children, the last two years previously, since when her symptoms had been menorrhagia, with leucorrhœa intervening, and constipation. The right sided pain she dated from her confinement, it was continuous and aggravated by menstruation.

On 24th August a 'sling' operation was performed, and on 16th September 1908 patient was discharged cured.

Case 10.—Mrs. A. B æt 24. Was admitted on 12th September 1908 for "pain in left groin."

This pain had lasted for two years, gradually growing worse, and aggravated by menstruation. There was marked leucorrhœa.

Per vaginam—Uterus small, mobile and retroverted.

On 14th September a 'sling' operation was performed, and on 8th October patient left hospital without symptoms.

Case 11.—Miss N. T., æt. 31. Was admitted for "continuous pain in the side," on 12th September 1908.

For two years she had suffered from continuous pain in the left iliac fossa and back, which was worse on menstruation. There was profuse leucorrhœa and micturition was painful.

Per abdomen.—Tenderness in the left iliac fossa.

Per vaginam.—Uterus retroverted and immobile. On 14th September a 'sling' operation was performed, the uterus not being bound down, and on 7th October 1908, patient left hospital without symptoms.

Case 12—M. M., æt 23, domestic servant, was admitted to hospital on 10th April 1909, for "pain in the stomach and incontinence of urine."

Menstruation was peculiar in that her cycle was three weekly and her loss only for one day. It was associated with pain of the spasmodic type.

Seven months previously patient had a sudden sharp pain in her abdomen and was operated on as an emergency in a Dublin hospital. She remained in hospital three weeks and since her discharge had had incontinence of urine, associated with headaches, chills, and shivering fits. There was marked constipation.

Per abdomen.—A medium scar, markedly tender. Right kidney palpable, sigmoid flexure, hard and contracted.

Per vaginam—Uterus retroverted.

On 19th April 1909 the abdomen was opened, and the sigmoid which was bound down by adhesions was freed, and the uterus slung forwards.

On 10th May patient left hospital, without symptoms. This patient is now an attending out-patient. For three years she was free from any symptoms, but lately has had frequency of micturition with pain during the act. The uterus and adnexa are in excellent position and her difficulty in micturition is much improved by medical treatment. No renal abnormality is seen and the trouble is ascribed to cystitis.

Case 13.—Miss M. G., æt. 22. Was admitted to hospital on 17th April 1909. This case is unusual in that menstruation did not start till 20, and that when admitted patient menstruated only every 6—8 weeks, the flow lasting for 1—3 days. Menstruation was characterised by severe pain for seven days before the onset of the period, and pain was so severe during the flow that she was compelled to lie up.

She had worn a Hodge Pessary for two years without relief—in fact, with positive discomfort.

For two years she had had constant pain in the hypogastrium—much aggravated by menstruation.

Per abdomen.—Negative.

Per vaginam.—Retroversion with double ovarian prolapse.

On 19th April the 'sling' operation was performed, and on 10th May patient was discharged completely relieved of all pain.

On 23rd July 1913 this patient reported that her symptoms were relieved by the operation and that menstruation became normal. She had since married and had miscarried when pregnant four months.

From her history it was deemed advisable to take a sample of blood for Wassermann's test, it being thought that the miscarriage was probably attributable to specific disease.

On examination the uterus was normal in position, but the right ovary was prolapsed.

This again is a case in which shortening of the ovarian ligament had not been deemed necessary, and in the case of the left ovary has been proved unnecessary.

13th August 1913—Rt. ovarian ligament shortened, 3rd September 1913—Discharged cured.

Case 14.—Mrs. I. P, æt. 30. Was admitted to hospital on 29th July 1911 for "marked dyspareunia and pain in abdomen and left side."

Her menses were irregular, and always associated with severe pre-menstrual and menstrual pain. There was profuse offensive leuchorrhœa.

For five yeare patient had noticed the pain in abdomen and left side, dating since the last confinement, but it had recently become much more severe. Micturition was at times painful and the bowels were very constipated.

Per abdomen.—Some tenderness in left iliac fossa.

Per vaginam.—Uterus backwards and left ovary prolapsed.

On 31st July a 'sling' operation was performed and on 22nd August patient left hospital without symptoms.

She reports a normal and very easy labour in 1912 and the dyspareunia is cured.

Case 15.—Mrs. A. F., æt 31. Was admitted to the hospital on 2nd August 1911, suffering from "pains in stomach." Her menstrual periods were marked by severe pain on the first day, but lasted only four days; loss was normal, and between the periods there was a yellow, profuse and offensive vaginal discharge.

For two years patient had suffered from a "nagging" pain in the hypogastrium which was worse on standing There was persistent and intractable constipation, and patient said she was becoming thinner.

Per abdomen.—There was slight tenderness in the left iliac fossa.

Per vaginam.—The uterus was backward, freely movable, the vagina was wide, and the right ovary was prolapsed.

On 5th August 1911 a 'sling' operation was performed, the cervix dilated and the uterine cavity curetted.

Recovery was uninterrupted and patient left hospital cured on 29th August 1911.

I saw this patient on 8th July 1913, when she said she had been free from symptoms of any kind till 2-3 months previously when she had begun to suffer from pain in the left iliac fossa her last period had been three days early, and slightly more profuse. I examined her and found the uterus in excellent position, and freely movable and nothing abnormal in the pelvis except a distended rectum full of scybala, and a loaded pelvic colon distinctly palpable per vaginam. Accordingly patient was smartly purged with calomel, was put on paraffin, and a week afterwards reported that the pain was gone.

This case is interesting as illustrating how much discomfort constipation can give rise to in an otherwise healthy pelvis.

Case 16.—Mrs. S., æt 30. Was operated upon on 28th February 1912, her symptoms being dysmenorrhœa and sacralgia. She had no family.

Per vaginam.—The uterus was found to be retroverted and both ovaries prolapsed.

A 'sling' operation was performed and the ovarian ligaments shortened, with the result that she is relieved of all symptoms.

Patient reports the occurrence of a normal pregnancy and easy labour in June 1913.

Case 17.—Mrs H. B., æt 33. Was admitted to hospital on 24th August 1912 for "floodings and 'turnings' of the womb." Her menses had been regular and gave her no pain till January 1912, since when she had been passing clots with leucorrhœa between periods. In January 1912 menorrhagia began and when she was about, patient lost almost continuously.

Per vaginam.—Uterus markedly retroverted and retroflexed.

On 26th August the patient was operated upon. A 'sling' operation was performed together with double salpingostomy, the tubes being sealed. Patient was discharged without symptoms on 17th September 1912.

Case 18.—Mrs. E. H, æt 48. Was admitted to the hospital on 3rd September 1912, suffering from "pain in the right side and leg and vaginal discharge."

Her periods had always been characterised by severe pre-menstrual and menstrual pain, and there had been irregularity and menorrhagia for two years previous to admission, and for the same period she had suffered from severe dragging pain in the right side which radiated down the right leg.

Abdominal examination was negative.

Per vaginam —The uterus was found to be enlarged and retroverted, the cervix being hard with slight discharge from it.

On 5th September 1912, Dr. Blair Bell opened the abdomen and performed the 'sling' operation. Patient experienced immediate relief from the pain described in her history, but unfortunately on the 16th day after operation suddenly developed right hemiplegia, the right arm and leg being paralysed as well as the right side of the face, speech was much affected. Patient was accordingly transferred to a medical ward. I saw this patient on 15th July 1913, 10 months after operation. She then informed me that she had had no pain since and that she had five normal periods after the operation. Menstruation then ceased, with the exception of a sixth "show." The loss was markedly less the last two periods, and she attributed her amenorrhœa to the menopause. Her speech was still thick and laboured.

Case 19 —Mrs J. R., *æt.* 25. Was admitted to hospital on 17th September 1912 for "pain down the left side and leucorrhœa." Her normal menstruation was four days out of every 28, but recently there had been menstrual pain.

For eight years patient had had pain in the left side, more recently it passed to the right side. Pain was constant in character, worse while menstruating, and relieved by fomentations.

Abdominal examination negative.

Per vaginam.—Cervix uteri was lacerated, the body of the uterus retroverted.

On 19th September a "sling' operation was performed, and on October 10th patient was discharged cured.

On 23rd July 1913 this patient reported herself.

On examination the uterus was found to be normal in position, but there was a vaginal discharge with a history suggestive of gonorrhœa. A swab was taken from the urethra, but at the date of writing no report had been received from the bacteriologist.

Case 20.—Mrs. K. J., æt 29. Was admitted to hospital on 17th September 1912 suffering from "Pain in the bottom of the back and hæmorrhage."

For two years patient had had insistent pain in the bottom of her back which she dated from her confinement, her baby being 2 years old For the last few months her menstrual cycle, instead of the normal 3-4 days out 26, had been increasing in length and frequency, until, at the time of admission, she was losing 4-5 days out of every 21, with the passage of clots.

Abdominal palpation did not reveal anything abnormal.

Per vaginam.—Uterus was found to be retroverted and retroflexed, the bulky, tender fundus lying in the pouch of Douglas.

On 19th September the 'sling' operation was performed and on 11th October patient left the hospital cured. On 29th July 1913 this patient was seen again. She had had no return of pain or menorrhagia and was pregnant, the period of gestation being 20 weeks, and her history was in every respect that of a normal pregnancy and was confirmed by examination.

This case is an excellent example of the puerperal type of retroversion materially benefited by operation, and since, at 5 months' pregnancy no abnormality was detectable, there is every indication of a normal labour and puerperium to follow.

Case 21.—Miss W., æt. 23. Was operated upon on 16th December 1912 for severe dysmenorrhœa.

Per vaginam.—Retroversion and ovarian prolapse.

A 'sling' operation was performed and the cervix dilated, with the result that the patient is cured of her pain.

Case 22.—Mrs. E. G. M., æt 30. Was admitted to hospital on 26th November 1912 for "Bearing-down pain."

She had been curetted five years previously and had had a Batholin's abscess opened a few months previous to admission.

Her history was one of nine years' pain in the hypogastrium and right iliac region dating from the birth of her child. A pessary had been inserted but caused such pain, discomfort, and leucorrhœa that she discarded it. She stated that the instrument had also caused ulceration of the vagina. She was free from pain when in bed, but stated that when about she could "feel the womb turn over" on any exertion. There were no menstrual symptoms.

Per vaginam.—An extreme degree of retroversion was found, the cervix pointing directly forwards and the fundus bulging and flattening the posterior fornix.

The 'sling' operation was performed on 28th November and patient left the hospital on 31st December relieved of her symptoms.

On 29th July 1913 patient was re-admitted for dyspareunia. The uterus was normal in position, but there was left ovarian prolapse, which on 31st July was treated by shortening of the ovarian ligament. At the first operation the position of the ovary seemed satisfactory after the uterus had been slung forwards, and it was accordingly left alone, although the ovary was somewhat bulky and œdematous. Events prove that it would perhaps have been better had the ligament been shortened at the time, but as I have explained such a step would have been a 'shot in the dark,' there being no indication for such interference. The line of treatment now adopted is —when in doubt shorten the ligaments.

Case 23.—Mrs. S. N. S., æt 28. Was admitted to hospital on 28th December 1912, suffering from "Aching pain in the right side" and for associated dysmenorrhœa and sterility. Eight years previously patient was operated upon per vaginam for "Pain in the back." Five years after this she had her appendix removed, and 3 months before admission for a 'lump' in the back (? lipoma). Since her operation for appendicitis she had suffered from right sided pain, worse when menstruating, and especially severe for the 6 months previous to admission, during which period menstruation had been irregular and scanty and dyspareunia a marked feature.

Recently she had suffered from pain on micturition and incontinence of urine, for the last two weeks before admission any spasmodic act, *i.e.*, coughing, would cause passage of urine.

Per vaginam.—Uterus was retroverted and the right ovary prolapsed. Abdominal palpation was negative.

On 30th December the 'sling' operation was performed — the uterus was found to be fixed backwards by adhesions which were freed.

On 25th January 1913 after an uninterrupted convalescence patient left the hospital.

On 15th July 1913 I saw this patient again. Until one month before the interview she had been free from all pain of any description. The last period, however, had been characterised by a milder edition of her previous right sided pain, which had persisted with modified severity since. Another period was nearly due when she was seen. There had been no dyspareunia since discharge from hospital.

On examination I found the uterus was in excellent position, but that the right ovary had a tendency to prolapse. I accordingly advised re-admission for shortening of the ovarian ligament, a measure which had not been deemed necessary at the previous operation.

Case 24.—Mrs. A., æt. 35. Was operated upon on 1st April 1913, her symptoms being "pain in the hypogastrium, indigestion, pain in the back and bearing-dow sensations." She had had three children.

Examination showed her to be suffering from puerperal retroversion and chronic appendicitis.

The abdomen was opened, the appendix removed and the uterus slung forwards as described.

There has been no return of symptoms.

Case 25.—Mrs. M. W., æt 38. Was admitted to hospital on 8th April 1913 for "excessive menstrual loss."

Her periods had been regular and normal till Christmas 1912, but for many months she had had pain at the bottom of the back, which became gradually worse. At the end of March 1913 she had a severe flooding at the time of a period. There was extreme constipation.

Per abdomen.—Nil detected.

Per vaginam.—Uterus big and bulky. Retroversion and retroflexion, fundus bulging the posterior fornix. On 10th April patient was operated upon, and on 4th May discharged after an uninterrupted recovery. On 20th July 1913, on being applied to for news of her progress, her medical adviser wrote that she was doing *very well* after the operation, that the pain was gone and menstruation normal.

Case 26.—Mrs. B., æt. 35. Had had one child and two recent abortions and was operated upon on 9th April 1913. Her symptoms being menorrhagia, dyspareunia, dysmenorrhœa and sacralgia.

Examination.—Reveal the condition to be one of puerperal retroversion, associated with a mucous polyp and endometritis (which the microscope showed to be adenomatous). The uterus was slung forwards and the uterine cavity curetted.

At the present time she has complete relief from all her symptoms.

Case 27.—Mrs. M. T. S., æt. 38. Was admitted to hospital on 11th April 1913, for "vaginal discharge."

Her menses were regular, but she had been badly "torn after her last labour five years ago. One month previous to admission patient had a 'flooding' at a menstrual period, and just before admission another, and more pronounced hæmorrhage. Her medical adviser suspected carcinoma, and referred her to the hospital for operation. For two years patient had had an offensive vaginal discharge between periods.

Per abdomen.—Nil detected.

Per vaginam.—Uterus retroverted and retroflexed.

Double laceration of the cervix, but no evidence of growth.

On 15th April a 'sling' operation was performed, supplemented by curetting and amputation of the cervix. Patient was discharged on 8th May free from all symptons.

On 20th July she wrote from home stating that she was "quite well and hearty," and that she had no pain or discharge, and that her menses had been normal in amount and frequency since she left hospital.

Case 28.—Miss A., æt. 35. Was operated upon for dysmenorrhœa on 5th May 1913. Examination revealed that the mischief was due to retroversion and to chronic appendicitis. A pessary had given no relief. The 'sling' operation was performed, and the appendix removed.

When patient left the home the position of the uterus was excellent, as I ascertainted by examination, her symptoms were relieved, and so far, have remained so.

Case 29.—Mrs. G., æt. 39. Was operated upon on 21st May 1913 for irregular menstruation, pain in the back, and dyspareunia. She had had no family but had had one abortion.

Per vaginam.—Uterus was retroverted and both ovaries prolapsed.

At the operation the uterus was slung up, and both ovarian ligaments shortened.

Relief of symptoms was absolute and has so remained.

These, then, are the cases illustrating the operation I have described. In all except case 5 relief has been

immediate and complete; and, with the exception of a few cases in which the shortening of the ovarian ligaments, after discussion, was not performed, with the resultant necessity of a subsequent operation to remedy recurring ovarian prolapse permanent. These cases have been useful in producting better results in later cases.

In many cases the marked and immediate relief stands out in gratifying contrast to the discomfort and inadequacy of previously tried pessaries.

In one case a patient is five months pregnant with every sign of a normal gestation and an uneventful labour to follow, and recently, I am informed, one of the cases operated upon in private has been delivered of a full-time child after a notably easy labour.

I hope at a future time to bring more evidence as to the favourable results on future labours of this operation.

Since the original reading of this paper four subsequent cases (Nos. 30—33) have been collected and a few additional particulars as to subsequent pregnancies have been acquired. Case 14, on describing her subsequent labour, was most insistent on the "good time" she had experienced, all her other labours having been "bad times;" when examined in July 1913, a year after her confinement, the pelvic condition was excellent, and the general result was most gratifying.

I have to acknowledge with much gratitude the valuable and time-saving help of Lieutenant T. R. D. Webb, I.M.S., in reducing the histories of the above cases to tabular form, thus rendering easy an otherwise laborious process.

A Mirror of Hospital Practice.

THE NATURE OF JAIL DYSENTERY.

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THE following figures may be of some interest and value towards settling the question whether jail dysentery is mainly of the amœbic or bacillary type. They were collected in Sylhet jail which, like many of the other jails of Bengal and Assam, regularly has a high admission rate for dysentery. It is a large district jail with a population of between 600 and 700. Facilities for bacteriological tests not being available, it was decided to apply the test of treatment in order to settle whether the dysentery of this jail is amœbic or bacillary in nature.

In April 1913 therefore a "dysentery register" was opened and all prisoners admitted to hospital for this disease were entered in the book as they came. Without selection, alternate cases on the list were treated with hypodermic injections of emetine, $\frac{1}{3}$ gr. daily for two to five days, and alternate cases with the older methods. About half the latter received ipecacuanha in doses of gr. xx to gr. xl per diem for three to nine days and the other half were treated with sodium or magnesium sulphate, one drachm every three hours continued in diminishing doses, while a few received tinct. ixora cocci or extract holorrhena liquidum, which drugs had been sent for trial in small quantities by the Indigenous Drugs Committee. In the register were recorded:—

(1) The treatment in each case.
(2) The number of days remaining in hospital.
(3) The number of days passing mucus.
(4) The number of days passing blood.
(5) The number of motions on each day of illness.

The experiment was kept up for ten months during which 254 cases of dysentery were admitted. Eight of these died, giving a case mortality of 3·15 per cent. The averages in the tables below were calculated on a total of 239 cases, certain cases which received mixed treatment being omitted and also, in order to decrease the "probable error," a few which deviated excessively from the means as regards number of days under treatment, stools, &c.

It will be seen from the tables that there was no very striking difference between the results of the various methods of treatment. There was however a slight balance in favour of the saline treatment. It gave somewhat better results as regards length of stay in hospital, progressive diminution in the number of stools and percentage of cases relapsing than any of the other methods.

The main point is that emetine gave no better results than the other forms of treatment, and from this it may be concluded that the type of dysentery under observation was not the amœbic.

TABLE I.

	Emetine.	Ipecacuanha.	Saline.	Tinct. Ixora Cocci.	Extract Holorrhena Liq.
Number of cases treated by	105	55	63	8	8
Average number of days in hospital.	7·8	7·0	6·8	7·4	7·0
Average number of days passing mucus.	2·5	2·2	2·8	2·0	1·6
Average number of days passing blood.	3·5	2·9	2·5	3·6	3·0
Percentage of cases relapsing after.	16·0	16·4	12·7	37·0	50·0

Deaths after emetine 4, after emetine plus ipecac., 1, after emetine plus saline 1, after ipecac., 1, after saline 1.

TABLE II.

	Average number of stools on each day of disease in patients treated by		
	Emetine.	Ipecacuanha.	Saline.
One day under observation ...	?	?	?
1st day admitted	12·7	12·7	10·3
2nd ,, ,, ...	9·7	9·3	7·3
3rd ,, ,, ...	6·4	6·1	4·6
4th ,, ,, ...	4·2	3·4	3·3
5th ,, ,, ...	2·7	2·7	2·8
6th ,, ,, ...	2·3	2·6	2·3
7th ,, ,, ...	1·9	1·9	2·2