days the patient began to recover and was seen a year or two afterwards in perfect health. The history of the case and blood counts have been recorded elsewhere.

Another case is referred to later on and another was successfully done for a large hard enlarged spleen which extended down to the pelvic region which was causing the greatest distress from pressure on the diaphragm and abdominal distension.

The most important point about splenectomy is the control of hæmorrhage, not so much from the pedicle as from the fine adhesions to the posterior wall of the abdomen and the under surface of the diaphragm. All these points must be carefully searched for and either twisted or ligatured.

Unusual Cases.

In abdominal surgery one is always likely to find surprising conditions of which the following are notable examples. In many such cases when once the incision is made for an exploration, it is difficult to close, and one has to go on with the operation.

Retroperitoneal Lipoma.—The patient was a very old looking woman who gave her age as 50 but looked much older. The duration of the tumour was only one year and weighed 28lbs. 4 oz. The bowel was adherent over the tumour and was injured. The patient died of shock 36 hours after operation.

Sarcoma of the Mesentery was found in another case of exploration. Nothing was done and the abdomen was at once closed, the case being inoperable.

Double broad Ligament Cyst.—About the size of a cocoanut. First the left and then the right were enucleated. A sponge was missed in this operation and never found, but the patient made a good recovery, so there was probably an error in counting.

Extra-Uterine Gestation Cyst, right side.

This extended into the right broad ligament and upward into the right umbilical and epigastric region. It was about 7 inches in diameter. The contents had broken down into which red grumous material. The sac was adherent to the cæcum and other structures. It was sutured to the wall of the abdomen and drained. Recovery good.

Ossifying Myoma.—About the size of the adult head. The patient had refused operation 3 years previously, but was obliged to seek relief from pelvic pressure symptoms. Recovery good.

Bloody Cyst of the Spleen.—This was only discovered on abdominal incision. The tumour was considered to be a cystic tumour before operation, possibly a hydatid. Splenectomy was successfully done by my colleague, Major Evans, during my absence.

Carcinoma of the Ovary.—This occurred in a young girl of 17. The abdomen was distended by a tumour about the size of 7 months' pregnancy which had developed in about 5 or 6 months. The abdominal walls were very tense and by examination under chloroform the cervix was found free and virginal in type. There was no special significance in the operation. The patient did well.

8 Years. 1902—1909.

Celeotomy for	No. of Operations.	Deaths.
Ovariotomy	60	9
Diseased Appendages (Oophoritis, Salpingitis, Pyosalpinx, &c.	87	14
Cysts of Broad Ligament	22	5
Pan-Hysterectomy (for Cancer and Fibroid)	52	16
Supra-Vaginal Hysterectomy ...	19	4
Extra-Uterine Gestation	8	2
Hysteropexia	26	1
	274	51

Statistics are given of the operations in hospital for 8 years. They do not represent the results of individual workers as there were several changes of medical officers for the purposes of leave and furlough. The percentages for ovariotomy and hysterectomy are high to all appearance but not when the nature of many of the cases is taken into consideration. That for diseased appendages compares well, 16·09 to 27 per cent.

TOTAL HYSTERECTOMY BY DOYEN'S METHOD, FOR THE TREATMENT OF FIBROID TUMOURS OF THE UTERUS.

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Practically all authorities are now agreed that Fibroid tumours of the Uterus, when large, or causing any symptoms, should be removed, and indeed many go further in recommending the ablation of *all* such tumours whenever discovered, whether they are causing any symptom or no. As to the precise choice of operation there is still a good deal of difference of opinion, but as a general rule, when such tumours are so situated that they can be completely removed by the operation of Myomectomy, without the removal of the whole or a part of the uterus, the trend of modern opinion would seem to be in favour of this method, even though the mortality and after-results do not appear to be quite so good as those of the more radical procedure.

Where a considerable difference of opinion still exists is, as to whether it should be made a general rule to remove the whole uterus with the cervix, by the operation of Panhysterectomy, as is the teaching of an increasing number of the

leading English Gynæcologists; or whether the cervix should be left behind whenever possible, and the operation of Supra-Vaginal or Sub-total Hysterectomy be made the one of choice, as is the teaching of the majority of the modern text-books.

The advocates of the more radical method claim these advantages for it:—

1. That it provides drainage.
2. That it gives security against unrecognised hæmorrhage.
3. That it removes the cervix which may become septic, slough, contain unrecognised malignant disease, or become malignant later on.
4. That there is less liability to adhesions after the operation.

On the other hand the adherents of the supra-vaginal method assert:—

1. That it is an easier operation to perform, especially in difficult cases.
2. That there is less danger of injury to the ureters, and less tendency to the production of cystitis.
3. That it causes less tendency to prolapse of the pelvic contents.
4. That the primary mortality is slightly less.

A careful study of all the arguments for and against each of these operations would seem to show that on the whole the operation of Total Hysterectomy has decided advantages over the other, *if* carried out according to the method described by Doyen, for by this procedure the operation is practically as easy as Supra-Vaginal amputation, the risk of injury to the ureters and bladder is reduced to a minimum, and as to the mortality of the two operations, a study of the available statistics shows that in the hands of skilled surgeons there is little if anything to choose between them: so as this method of operating practically gets rid of all the arguments that have been advanced against Total Hysterectomy, and gives all the advantages of this method it appears to be worthy of a more extended trial.

Curiously enough hardly any of the works on the subject that I have been able to consult, either by British or American Authors, contain anything at all about this operation and of those that do the majority give such a meagre description as to be almost useless. The best account that I have come across is that by Professor Herbert Spencer, in his article on Abdominal Hysterectomy in the 2nd edition of Allbutt and Playfair's *System of Gynæcology;* and it is to this article and also to private communications from the same authority, that I am chiefly indebted for the following description of the operation which I feel sure will be found to be superior to any other method in most of these cases, and therefore I make no apology for giving it somewhat in detail in the hopes that those who are not already familiar with it may be induced to give it a trial.

The patient is prepared in the usual way for an abdominal section; on the day before the operation the vagina is douched with a 1% solution of Formalin, and on the morning of the operation, as an additional precaution it may be swabbed out with tincture of Iodine. A *narrow* operating table makes the operation far easier to perform. The Surgeon stands on the *left* side of the patient, who is placed in the Trendelenburgh position. A solution of Iodine, 2% in Rectified Spirit, is painted over the line of the proposed incision, which is placed slightly to the *left* of the mid-line, over the inner border of the rectus muscle, which, after division of the anterior fascia, is displaced outwards, and the peritoneum opened in the line of the original incision. It is better to open the peritoneal cavity at the upper part of the wound first if the bladder is displaced, or drawn up and the incision can then be enlarged downwards afterwards.

The uterus is seized with the hand or vulsellum and drawn out of the wound well over the pubes and held by an assistant. If it is found to be held down by the Round Ligaments these are divided after ligature in the usual manner, and if by the Broad Ligaments these are clipped temporarily near the uterus by two pairs of forceps on each side and divided between them.

The *right* hand of the operator is then passed into the abdomen behind the uterus and the cervix felt with the middle finger. The middle finger of the *left* hand is now passed in front of the uterus over the bladder and the neck of the cervix felt between the two fingers. When this has been clearly made out, the cervix is pressed backwards by the *left* middle finger to make it project into Douglas's Pouch and with a scalpel a longitudinal incision of about 1″ is made on to the cervix opening up the vagina behind. Make sure that the opening is really into the vagina by examining with the forefinger.

The cervix is now seized with a small vulsellum and pulled out through the opening as far as possible, the mucus wiped away from the os, and the vagina divided on both sides close to the cervical reflection. A strong vulsellum is now placed on *both* lips of the cervix closing the cervical canal, the small vulsellum being removed, the cervix is pulled upwards and backwards as much as possible and the anterior reflection of the vagina divided. The cervix is thus freed from the vagina all round. In cutting great care should be taken to keep the scissors *as close as possible to the uterus* throughout. The uterus is now drawn up, the attachments become stretched and are divided, all the while keeping the scissors *close to the uterus.*

If the uterine arteries are seen, they may be clipped with artery forceps before they are divided, but generally they are cut first and then secured. The cervix is now drawn strongly upwards and away from the bladder, which is then readily separated from it from below upwards by means of the finger protected with gauze, and the vesico-vaginal pouch opened. In some cases it may be found more convenient to divide the peritoneum across the front of the uterus above

the reflection on to the bladder and to separate the bladder from above down to a certain extent, before proceeding as above described, but usually the former method is the best to adopt.

The uterus is now only attached by the upper part of both broad ligaments which are divided from below upwards, leaving the Tubes and Ovaries behind unless these are diseased, in which case they should, of course, be removed with the uterus.

All bleeding points are now secured and understitched with fine silk. A purse-string suture is next applied to the peritoneum (the vagina being left entirely open). The best material to use for this purpose is floss silk, size about 4½, threaded on a ½ circle needle, held in a fine needle holder. This suture is passed first through the cut edge of the peritoneum in Douglas's Pouch, then through the right utero-sacral ligament, the peritoneum over the top of the fallopian tube near its cut end (*not* through the tube itself). The right round ligament, the peritoneum above the bladder (in two or three places). The left round ligament, left fallopian tube, left utero-sacral ligament, and thus back to the commencement. The suture is drawn tight after the parts have been dried with gauze, and all free edges of peritoneum tucked in towards the raw surface, it is then tied and the ends cut short. The peritoneum is now quite smooth except towards the centre where it is puckered in the position of the knot. The passing of the purse-string suture is aided by first picking up the cut edges of the peritoneum at intervals, all round with long forceps.

The patient is now placed in the horizontal position and about one pint of hot normal saline solution may be poured into the abdomen, which is then closed by any of the usual methods, the one that I usually adopt being a fine continuous catgut suture to the peritoneum, fine interrupted silkworm gut to the anterior fascia, and Michel's clips to the skin. A sterilized gauze dressing is then applied (after painting the wound with a 2% solution of iodine in rectified spirit), and kept in place by a many-tailed bandage with perineal bands to prevent it slipping up on the abdomen. The clips should be removed on the 8th day *at the latest*, and the patient may get up at the end of three weeks, but *not* before.

I have performed 6 operations for the removal of Fibroid tumours of the uterus by this method during the past 4½ months that I have been in charge of the Eden Hospital, and have found it so much superior to any of the other methods of hysterectomy that I had previously tried, in simplicity, shortness of the time necessary for its performance, and in the immediate after-results (as to remote after-results it is of course too early yet to judge), that I always intend to make it my routine method of operating in these cases.

The following is a brief summary of the cases :—

1. K———, Bengali, aged 22, admitted 5th May 1910, for a tumour of the lower abdomen she had noticed for the last 8 months, which is now double the size it was when first observed and is painful at times. Menstruation regular but excessive. The tumour reached to 2½ below the umbilicus.

Operation, 9th April 1910, incision about 4in. long. The uterus enlarged to the size of a small cocoanut by an intestinal fibroid, together with the left tube and ovary (which were diseased), were removed by Doyen's method. Abdomen closed inlayers. Recovery uneventful. Discharged 16th April 1910.

2. Mrs. H——, European, aged 40, admitted 17th May 1910. Last menstruation began on 6th January 1910, and was very free but no clots were passed ; since that date had had complete ammenorrhœa. No other symptom. Uterus was lying forwards pushed to the right by a hard tumour the size of a cricket ball lying to the left and in front. *Operation*, 21st May 1910. Incision about 4½in. long. The uterus, the seat of multiple fibroids, the largest the size of a big mango (on the left side), and the smallest the size of a bean, removed by Doyen's method. Recovery uninterrupted, except for a small stitch abscess caused by the catgut that had been used to stitch the anterior fascia. Discharged 9th July 1910.

3. N———, Bengali, aged 40, admitted 3rd June 1910, for occasional abdominal pain. Menstruation irregular, free and painful. The tumour reached to 1¼in. above the symphysis. *Operation*, 11th June 1910. Incision 5in. long (the abdominal wall very fat). The uterus containing 2 fibroids, one the size of a duck's and the other of a hen's egg, together with both tubes and ovaries which were diseased, removed by Doyen's method. Abdomen closed in layers. Recovery uninterrupted except for a stitch abscess similar to and apparently due to the same cause, as in the last case. Discharged 29th July 1910.

4. Mrs C——, European, aged 44, admitted 4th June 1910, for pains in the abdomen, and down the legs. Menstruation free but regular. The uterus was enlarged to the size of a cricket ball. *Operation*, 9th June 1910. Incision 4¼in. long. The uterus enlarged to the size of nearly 3 months' gestation, containing a degenerated fibroid the size of a tennis ball removed by Doyen's method. Recovery uninterrupted. Discharged 7th July 1910.

5. M——, Bengali, aged 32, admitted 20th July 1910, for scanty menstruation and difficulty of micturition. Tumour reached half way between the symphysis and umbilicus. *Operation*, 25th July 1910. Incision 4½″ long. The uterus enlarged by multiple fibroids, 7 in all, the largest the size of a polo ball, the smaller the size of walnuts, together with the right tube and ovary which were diseased, were removed by Doyen's method. Recovery was somewhat delayed by a small hæmatoma which formed in the centre of the abdominal wound superficial to the anterior sheath of the rectus, apparently from oozing of some small subcuta-

neous vessel, but was otherwise quite uneventful. Discharged 30th August 1910.

6. Mrs. B.——, European, aged 38, admitted 7th August 1910, for a tumour which she first noticed 3-4 months ago, pain in the back and abdomen. Menstruation regular but free. The tumour reached to 2in. above the symphysis. *Operation*, 16th August 1910. Incision 4½in. long. The uterus containing 4 fibroids, varying in size from a mango to a pigeon's egg removed by Doyen's method. Abdominal wound closed in layers.

P. S.—This patient made an uninterrupted recovery and was discharged cured on 10th September.

A FEW REMARKS ON APPENDICITIS.

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Though it may be doubtful whether cases of appendicitis are really increasing in frequency, I think there is little doubt, that they are brought to our notice more often now than before, and consequently that the disease has assumed a great public importance during the last decade. The apparent increase is probably due to more accurate diagnosis. Appendicitis has, unfortunately, become almost a household word, and there are few families who have escaped altogether.

Causation.

A suggestion has been recently made that the disease is infective, and due to a special, as yet undiscovered organism. As the morbid processes of appendicitis are the same as those which occur in other parts of the body, and as the appendix itself is geographically placed in such a way, as to make the natural cleaning of its cavity very difficult, I think that we must wait for a very full demonstration of special infectivity before we believe in it. On the other hand, there are, no doubt, families in which cases of appendicitis have occurred one after the other in a decidedly suggestive fashion. As regards the effects of ingested substances, foreign bodies have been often found, but they must be regarded as accidental, while fœcal concretions themselves become septic foreign bodies, and no doubt precipitate attacks of appendicitis. I have removed an appendix containing a hard fœcal concretion nearly as big as the last joint of my little finger.*

Here, in Bengal, cases of appendicitis occur amongst all classes of the population. So that it would be difficult to lay the blame on any special class of food. Statistics such as are available would be useless and fallacious, as amongst the Indian cases, probably only a very small proportion are ever discovered. The effects of chronic constipation as a factor in the causation of this disease are well known, and its connection with certain cases of chronic colitis is, I think, fairly established. Tubercular cases seem rare out here. I have not come across any tubercular appendices, but have met some very chronic abscesses, which I have suspected to be tubercular in character.

As a cause of a recurrent attack of appendicitis injury or trauma must not be forgotten. In one case under my charge, a fall from a bicycle against a tree trunk brought on a well-defined attack. In another case, the attack was ascribed to a blow in the groin from the corner of a table whilst a still more instructive example followed in a few hours the first coitus after confinement, the patient having suffered in the seventh month of pregnancy from a severe attack of appendicitis.

Onset and Symptoms.

The characteristic position of appendicular pains and tumours is almost as well known to the lay public as to medical men, so much so, that it may be necessary to insist on the fact that appendicitis may be present, at any rate, in the earlier stages when the pain complained of is far distant from the usual appendicular region. In a very bad case when the appendix had been perforated and was afterwards found running inward and lying crossways, hanging over the brim of the pelvis, the pain complained of was epigastric and in the left hypogastric region. It was only after the lapse of some hours, that the tenderness was more clearly defined on the right side, and subsequently remained there. In another case, a lady, who had come by train, arrived in great abdominal pain, with fever, sickness and diarrhœa. She was not treated by me at this period, but she told me that the pain was a very severe colic, such as she had never previously suffered, whilst her vomiting started very soon. She was, not unnaturally, treated for indigestion, and after a few days was better, but the pain did not leave her entirely. After the lapse of a week, she took a meal of curry and rice, with the result that she immediately had a relapse with fever and acute pain. On examination I found no pain over the cæcum but a very decided tenderness 1½ inches below the umbilicus, and an inch to the right of this joint. She had a foul breath and coated tongue. I diagnosed appendicitis in an appendix which was lying transversely towards the promontory. The tenderness persisted in this region, and nowhere else. The acute colic pain ceased, but the foul tongue and fever persisted. A blood count showed a moderate leucocytosis. Widal's test was negative. She was treated medically, and after three weeks her temperature fell, the pain disappeared and her tongue became clean simultaneously. I have no doubt myself

* This concretion was kindly examined for me by Captain H. Emslie Smith, the Chemical Examiner to Government. It consisted of Carbonates and Phosphates of Calcium and Magnesium, and gave reaction of bile. No chloresterine was detected.