sort of plastic operation seemed out of the question, so nephrectomy was performed. The lumen at the uretero-pelvic junction was found to be very small. Recovery was rapid.

The history in this case was typical of that of intermittent hydronephrosis. There was presumably a congenital stricture at the uretero-pelvic junction. When secretion of urine was free the pelvis would become distended, with consequent valve formation at the orifice and increased obstruction to the passage of urine. Had the condition occurred on the right side a diagnosis of appendicitis would probably have been made sooner or later. The previous negative cystoscopic findings were presumably due to the fact that the examination was made when the attack was over. A pyelogram might have settled the diagnosis.

CASE III.

A married woman, aged 53, was seen in consultation on account of haematuria. She stated that she had passed blood on one occasion seven years previously. When recovering from influenza in February, 1927, she had profuse haematuria lasting several days, accompanied by pain in the right loin. She was a very thin woman, and the right kidney was palpable and tender. She was admitted to hospital. Cystoscopy on February 4th, 1927, after injection of indigo-carmin, showed active excretion of dye by the left kidney. The right ureter excreted a little turbid urine, but no dye. The patient was then anaesthetized, and the right kidney exposed by a lumbar incision. The kidney was found but little enlarged, the cortex was thin and its surface lobulated, the renal pelvis was dilated. The kidney was removed and found to be full of blood clot. No cause for the bleeding or for the dilatation of the pelvis could be found. The patient made a rapid recovery.

Haematuria as a symptom of hydronephrosis is recognized, but is rare. Prior to operation a diagnosis of new growth was made, although the history of haematuria seven years previously was difficult to account for on this diagnosis.

CASE IV.

An agricultural labourer, aged 52, had noticed a swelling in the lower abdomen for about three months; for a fortnight prior to admission it had been somewhat painful. He was a spare, muscular man. In the lower abdomen was a large cystic swelling, the centre of which was somewhat to the left of the mid-line. Cystoscopy showed the right ureter to be functioning normally, while from the left came a little blood-stained fluid. A diagnosis of hydronephrosis of an abnormally situated left kidney was made.

Operation.

The abdomen was opened through a left paramedian incision below the umbilicus. The right kidney felt normal. The posterior parietal peritoneum covering the tumour was incised, the swelling tapped, and six pints of chocolate-coloured fluid evacuated. The very large hydronephrotic kidney was removed without trouble and the posterior parietal peritoneum closed, leaving room for a drainage tube. The patient made a rapid recovery.

The diagnosis of what would otherwise have been an obscure condition was made easy by cystoscopy. The abnormal situation of the kidney made a transperitoneal removal the operation of choice, and it gave opportunity to examine the right kidney. With a normally situated kidney a loin incision should, in my opinion, always be employed.

CASE V.

A young married woman, four months pregnant with her second child, was sent into hospital as an urgent case about 8 p.m. on December 2nd. At 3 p.m. on December 1st, after a good meal, she complained of pain in the lower abdomen and vomited. During the night she vomited slightly, and was unable to sleep owing to the pain. She stated that for some years she had been subject to occasional attacks of pain in the right loin.

On admission she looked ill, the temperature was 100° F., and pulse 130. The tongue was clean and she was very tender in the right loin and in the right iliac fossa. The pregnant uterus interfered with palpation. The urine was normal. She was not thirsty and micturition was not frequent. Vaginal examination did not help. It was thought that pyelitis could be excluded. The diagnosis seemed to lie between acute appendicitis and some renal condition. The patient was very ill and operative intervention obviously urgent. The most practical method appeared to be to open the abdomen and, if nothing abnormal was found therein, to expose the right kidney.

Operation.

The abdomen was opened through a right paramedian incision below the umbilicus. A little free fluid escaped. There was no inflammation of the appendix. The gall-bladder and left kidney felt normal. The right kidney could not be felt, but there was a diffuse swelling in the right loin behind the peritoneum. The wound was closed, the patient turned on her left side, and an incision made in the loin. Much blood-stained fluid was evacuated, and a sacculated kidney could be felt lying high up under the ribs. On delivering it a hole in the cortex was seen, through which fluid was still escaping. The kidney was removed and the wound closed with drainage. A large stone was found blocking the

pelvis of the kidney. Spontaneous rupture of the thinned-out cortex appeared to have taken place. The patient made a good recovery and did not abort.

Spontaneous rupture of a hydronephrotic kidney must be a rare event. The onset of pain in the lower abdomen was an interesting feature. It is a debatable point whether I should have opened the abdomen, but the patient was very ill, the hour was late, and cases of intraperitoneal rupture of a hydronephrosis are on record, so the procedure seems to have been quite justifiable.

TREATMENT OF GONORRHOEA IN WOMEN BY SWABBING WITH MERCUROCHROME AND FLAVINE.

BY

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EVERY gynaecologist who has to treat many cases of gonococcal infection of the female genital tract will agree that there is no more difficult condition to deal with adequately, and that any method whereby the time of treatment can be shortened is welcomed by patient and medical attendant alike. The method of treatment here described has been tried for the last nine months at the Bristol venereal disease centre, and the results are compared with those obtained from other methods. Although the total numbers are not large the results have been so encouraging that it seems worth while recording them in the hope that the method may be further tried out at other centres and in private practice.

The main points in the treatment of women suffering from gonorrhoea are daily and regular attendance, and treatment by a skilled and conscientious nurse or medical man, until cure is obtained; and the following factors are necessary in any treatment if good attendance is to be obtained.

- (a) Each treatment sitting must be fairly short.
- (b) The method used must cause as little discomfort as possible.
- (c) The patient must see some steady and increasing improvement in her condition.
- (d) There must be an atmosphere of sympathy and cheerfulness and complete absence of any suggestion of moral turpitude.
- (e) The treatment must be efficiently carried out.

It is claimed that this method of treatment completely meets conditions (a), (b), and (c). With regard to (d) and (e) the practical treatment in this clinic is carried out by the sister and her nurses, and any success achieved must be attributed to their enthusiastic co-operation and careful attention to detail. Not only have they reduced the discomfort of the patient to a minimum, but they have established a cheerful confidence, which is the first essential in getting the patients to attend regularly.

In this paper no mention is made of the ordinary methods of complete pelvic and bacteriological examination carried out on each patient.

Criteria of Cure.

Three consecutive negative smears from the cervical canal and urethra are taken at a month's interval, each after a menstrual period, and a culture from both situations. During these nine weeks no treatment at all is given. A "final test" is taken in a similar manner three months later. It will be seen that the patient has been five months without any treatment when the "final test" is taken. If any of these tests are found positive a month's treatment is given and the series is started again. In every case of gonorrhoea two Wassermann blood tests were performed, the second following a provocative dose of 0.3 gram of stabilarisan.

Methods of Treatment Previously Used.

Of the many methods devised the following has up till recently been found by far the most satisfactory, and is known here as "Routine A." It is a modification of a method described by its originator, Colonel Harrison, in

the *British Journal of Venereal Disease* (January, 1926). Briefly, it consists in irrigation of the urethra and cervical canal with a solution of sodium chloride and chloramine-T, and then packing the vagina with gauze soaked in glycerin of borax, or glycerin of ichthyol, or glycerin of eucalyptus daily for successive weeks.

While this method of irrigation undoubtedly clears up the surface of the cervix and vagina with great rapidity it fails in that it does not enable the fluid to reach all the folds and pockets of the vagina. The fornices retain small pools of infected material, and the vagina being H-shaped in section is not fully distended by the flow from the Harrison's two-way nozzle. It seems to be very necessary that a daily complete cleansing of the whole area accessible should be performed. The packs, while distending the vagina and keeping the glycerin in contact with the walls, unfortunately act as corks to the cervical secretions, and it is surprising how much muco-pus is found pent up behind them when they are withdrawn. Undoubtedly the associated chronic cervicitis is not improved by the prevention of exit of the quantity of fluid exuded in the presence of the glycerin.

The Method under Consideration.

The patient is placed in a gynaecological examination chair and the vagina is washed out with a weak solution of boric acid (mercurochrome acts best in a mild acid medium). A fenestrated Cosco's speculum, as large as can be tolerated, is then introduced and the vagina and fornices are fully stretched. All muco-pus is now cleared away with the boric lotion, and then a swab, sopped in 1 per cent. mercurochrome, is rubbed all over the cervix and vagina, so that the solution reaches every part, including the orifice of the cervical canal. As most cases display some urethritis at the beginning of treatment a small quantity is run into the bladder, retained there for a few minutes, and then passed again. The speculum is removed and the treatment is now ended.

In cases in which the gonococcus seems resistant to mercurochrome a change is made by using 1 in 1,000 flavine for seven days in exactly the same way, and then reverting to the mercurochrome.

Comments.

This method of treatment is rapidly and easily carried out, but entails care and some practice on the part of those performing it. It is absolutely necessary that all parts of the vagina be fully distended and swabbed over, and that no pockets are left untreated. It allows free drainage for all cervical secretions and causes no irritation to the inflamed surfaces. Mercurochrome, in an acid medium, penetrates to a remarkable extent, and the immediate result is a clearing up of the offensive discharge, with a consequent encouragement of the patient. Since using this method of treatment there have been practically no instances of patients failing to attend regularly and complete the treatment, though many of them have to come considerable distances for their daily swabbing.

Results and Comparisons.

Forty consecutive cases were treated daily except during the menstrual flow. (A few patients missed one or two treatments.) In all cases the gonococcus was present at the beginning of treatment.

	Days.
Average number of days from the beginning of treatment till the first negative smear* was obtained	39.1
Longest period under treatment (one case)	100.0
Shortest period under treatment (one case)	4.0

* First negative smear is taken to mean the first smear of the final series. If a positive smear occurred afterwards the whole series was started over again.

Leaving out the extremes at both ends, it was found that twenty-eight days sufficed to render the smears negative in most cases.

Twelve cases were treated for one or two weeks with flavine 1 in 1,000 in place of mercurochrome.

	Days.
Average number of days under treatment	45
Longest period under treatment	91
Shortest period under treatment	17

Complications.—The above fifty-two cases include one case of acute gonorrhoeal rheumatism of the wrist-joint, which cleared up very rapidly, and two Bartholin's abscesses, which were incised as complete removal was impossible.

Failures.—Two cases have failed entirely to respond to treatment and have also made no progress with routine treatment. In both cases there is a possibility of frequent reinfection, one case being a prostitute, while the other has a husband who will not undergo treatment, although he is infected.

It will be seen that by this "swabbing" method there is a reasonable chance of getting the first negative smear in about a month, while the patients' symptoms have usually vanished some two weeks earlier, and they feel correspondingly encouraged. As soon as a negative smear is obtained active treatment is stopped till after the next menstrual period, and the patient need not attend again till that date, when she comes up for smears and cultures only.

Comparison with Cases Treated by Routine A.

Fourteen cases, treated by Routine A during the same period, were taken as control cases. They were not selected cases, being the first cards which came to hand of those patients who had attended regularly.

	Days.
Average number of days to first negative smear	153
Longest number of days to first negative smear	270
Shortest number of days to first negative smear	60

There were twenty-one cases in which treatment had been going on for over six months, but the attendance was not absolutely regular, and so they are not included in the above figures, as the comparison was not considered fair.

Cases Treated first by Routine A and then by Mercurochrome Swabbing.

These cases are perhaps the most interesting. Fifteen cases which had been under Routine A for some time were examined and smears taken with positive results. They were then put on to the mercurochrome treatment, with the following results:

	Days.
Average number of days under Routine A and still infected	111.2
Average number of days under mercurochrome to the date of first negative swab	28.2

In addition to these cases treated at the venereal diseases centre, I have found this a most useful form of treatment in private practice. Among others, there have been five cases of pregnancy treated. They all made an uncomplicated recovery and there was no ophthalmia amongst the infants. The only essential is the service of a good nurse, or personal application of the mercurochrome by the medical attendant.

Conclusions.

1. This method of treatment is efficient in that it appears to cure the disease.
2. It greatly shortens the time under treatment, and so is a sound economic factor, both for the patient and the venereal disease centre.
3. It is not in any way painful or unpleasant.
4. The rapid improvement in the symptoms is encouraging to the patient, and so regularity in attendance is promoted.

It is very probable that there may be other substances which will prove even more efficient than mercurochrome, and it is intended that a trial shall be begun at once of the solution of brilliant green and crystal violet, used by Messrs. Berkeley and Bonney as a vaginal disinfectant, this to be used in an exactly similar manner to the mercurochrome.

I have to thank Dr. S. Hardy Kingston, director of the Bristol centre, for his encouragement in the trial of this method and the transfer of numbers of his cases on Routine A for comparison; also the other medical officers of this clinic for their hearty co-operation, and the sister and nurses for their enthusiasm in carrying out the treatment and their interest in reporting the progress of the cases under treatment.