This incommodes the patient, and may even cause a preference for a few days in bed. The operator's anxieties do not count.

In tropical medicine quinine injections, subcutaneous or intramuscular, have had an occasional horrid reputation for producing sloughing cellulitis, deep abscess, and, in the tropics, have been followed more than once by a fatal tetanus. It has also been reported that sodium salicylate 20-30 per cent. and sodium chloride 20 per cent., injected under the skin, have caused sloughing. Another kind of slough, one-eighth to one-half of an inch in diameter, has, under my hands, been produced by each of these three drugs, although the lumen of the varix had been fairly entered. This slough has occurred where loops of smaller tortuous varicose vein lay closely together; it appeared one-half to three-quarters of an inch above the point injected; injections were directed upwards. It is true that to transfix a loop in such a varix bunch is easy. In these cases, however, injection was accurately intravenous, and there was no haematoma or subsequent discoloration of skin from extravasated blood.

The clinical events have been: A purplish mark in skin; next day this was a grey blister, which later dried to a hard adherent black scab surrounded by inflamed and tender skin. Some weeks later the scab could be separated, disclosing then an excavated pouch filled with black sticky clot, under which lay small grey-yellow sloughs. Microscopic examination of clot and sloughs revealed no organisms, and none has grown from clot or slough in aerobic culture. It is evident that a whole small length of thrombosed varix, with some of the skin over it, died quickly *in situ*. Healing readily followed on treatment with hypotonic salines. But the patient's view of the matter may be as black as the scab, and in one it was almost a jet-black ingratitude; such patients do exist.

This sort of sloughing, and the far extension of thrombo- and peri-phlebitis, appear in retrospect to have been due to too large a dose of the drug for that particular varix. Both were infrequent, and have not occurred with more cautious dosage. In none of the cases, even in those with a rapid extension of the phlebitis from lower leg to saphenous opening, has there been noted any rigor or fever—both usual features of a *septic* thrombo-phlebitis.

In hospital out-patients varicose ulcers of leg have healed well after the injection of the accompanying varicose veins. In three women in the third to fourth month of pregnancy cure of varicose leg veins by injection into them of quinine hydrochloride produced complete relief from aching legs and oedema of ankles, and no hint of relief from the pregnancy. Even doctors have submitted to injection of their leg varices. One or two have lessened the tedium of treatment by probing discussions of the symptoms and signs of embolism. There has been no demonstration of embolism; and in view of the large number of cases now safely injected here and in France, by many practitioners, the risk of embolism appears to be remote.

Thrombo-phlebitis of a vein, whether caused by bacterial toxin, trauma, or "chemical" injection, is, then, safe—if the thrombo-phlebitis is *aseptic* and the vein *varicose*. The dose of quinine hydrochloride 13 per cent. (with methane as analgesic) has varied from a few drops to—very rarely—1 c.cm. But even large loops of varix, if lying closely together, should receive small doses. It is easier to repeat an injection next time than to treat a slough ulcer. The most frequent dose has been 1/4 c.cm.—and four injections at a sitting.

It has been almost the rule for patients to return later (some with shorter skirts and some with now one stocking only—a thinner one—on each leg) to demand injection of some small veins not thought worthy of treatment when the bolder varices had challenged operator and patient; some, too, to deplore once more the scars of a past excision of veins that had not prevented varices reappearing. Perhaps a few of these vain scalpel scars can be cancelled out by the depressed pigmented scar of an injection slough, or in some cases by the pale snuff-coloured sinuous line, or the brownish patch, that marks the track of a past too acute injection peri-phlebitis. Still later, the varices, now completely forgotten, and represented only by a thin hard subcutaneous cord; this more or less beige staining may

be counted to the operator for unrighteousness. It is not unlikely that the stain will prove as permanent as the scalpel and the slough scars. Two of the earlier patients in this series have now all three, yet are content and even grateful to all concerned; such patients do exist.

THE TREATMENT OF HYDRONEPHROSIS.

BY

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In general surgical practice hydronephrosis is met with somewhat infrequently. It so happened that during the year 1927 six cases came under my care, of which five appear to me to present features of sufficient interest to justify publication. The sixth was a simple case of impacted renal calculus.

CASE I.

On January 16th, 1927, I was called to see in consultation a farmer, aged 79, wiry and active, with a tendency to occasional over-indulgence in alcohol. About fourteen days earlier he first complained of abdominal pain and nausea, but no vomiting. Under medical treatment the pain subsided for a few days and then recurred, with abdominal distension and constipation. The abdomen was found to be distended, but there was no visible peristalsis. Rectal examination revealed prolapsed piles, from which he had suffered for many years, and enlargement of the prostate. No growth could be made out. He was removed to a nursing home. Under treatment by enemata his condition improved and an x-ray examination after an opaque enema was carried out. The enema was badly retained and did not go beyond the lower end of the sigmoid. Everything seemed to point to obstruction due to growth, and an operation was decided on.

Operation.

On January 20th an incision was made, splitting the left rectus below the umbilicus. The sigmoid was found to be normal except for some small diverticula. On passing the hand upwards a large hydronephrosis of the left kidney was at once found. The right kidney felt normal. The abdominal incision was closed and the patient turned on his right side. A free lumbar incision was made. The pelvis of the kidney was found distended to a capacity of some thirty ounces; it was very adherent to surrounding structures. The fluid was evacuated by puncture, and the kidney, together with as much of the pelvis as possible, was removed rapidly. A small tear of the peritoneum was sutured and the wound closed, except for a drain.

The patient bore the operation well. He had to be catheterized the next day, but subsequently passed urine without trouble. He was well enough to leave the home three weeks after the operation, although there was still some discharge at the site of the drainage tube.

The case is interesting from the point of view of diagnosis. Dilatation of the renal pelvis not infrequently gives rise to symptoms of intestinal obstruction. In this case the tumour was masked in the first instance by abdominal distension. The probable explanation of the misleading x-ray findings is that the prolapsed piles prevented proper retention of the opaque enema. The urine was normal. The operation had to be carried out rapidly, and no cause for the hydronephrosis was found. There was not sufficient prostatic obstruction to affect the right kidney.

CASE II.

A medical student, aged 20, had been subject from early childhood to attacks of pain in the left loin, accompanied by vomiting, and lasting between one and eight days. The pain rose gradually to a climax and as gradually passed off. No diuresis after an attack had been noticed. On one occasion bacteriological examination of the urine had been made and streptococci found. The attacks had become more frequent lately and had interfered with his studies. He had been treated for gastritis, an x-ray examination of the stomach had been made, and he had also undergone a course of psychotherapy. Three months prior to my seeing him an x-ray examination of the kidneys had been made elsewhere, and he had been subjected to cystoscopy, after an attack was over, with negative results.

The patient was admitted to the Northampton General Hospital, and I was fortunate to see him during an attack. He was in considerable pain, and very tender on palpation in the left costo-vertebral angle. He had vomited copiously. The abdominal wall was rigid and muscular, and no tumour could be felt. A little pus was present in the urine. Immediate cystoscopic examination was carried out under general anaesthesia, after an injection of indigo-carmin. There was free excretion of the dye by the right kidney, but none by the left. A catheter passed up the left ureter stopped at 25 cm. A diagnosis of intermittent hydronephrosis was made.

Operation.

On February 4th, 1927, a lumbar incision was made, and the left kidney was found much enlarged and reduced to a shell. The pelvis was dilated to a capacity of seven or eight ounces. Any

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