years; 5 (20 per cent. about) were too recent to be classified; that is, omitting the 5 recent cases, about 20 per cent. were successful, and 20 per cent. ended either in death or amputation of the limb, and another 40 per cent. were unsatisfactory.

I may here mention two points referred to by Mr. Croft: 1, that excision shortens the duration of suffering and illness; 2, that the shortening of the limb is only a trifle more than it is in the most favourable cases of ankylosis after destructive disease of the joint.

1. As to the comparative duration of illness in excision and non-excision cases, it is difficult to speak except in general terms. Undoubtedly, the cases in which primary union has been obtained by Mr. Barker and Mr. Pollard are conclusive, as far as they go, in favour of Mr. Croft's view. In a considerable number of Mr. Wright's cases, however, the wound was still unhealed at the end of two years. In the report of the Clinical Society the average period of treatment in fifty-four suppuration cases at the Alexandra Hospital was a little under two years and a half. But this question cannot be altogether separated from another, namely, how long is it before the patients are finally cured, and are able to use the limb freely in the ordinary occupations of life? This, in excision cases, is, I think, at present undetermined. In the 37 suppuration cases recently examined at the Alexandra Hospital it was found, on the average, to be five years.

2. Mr. Croft estimates that the shortening of the limb is only a trifle more than it is in the most favourable cases of ankylosis after destructive disease of the joint.

In the 13 of Mr. Croft's 45 cases in which measurements are given, the average shortening was two inches and three quarters; while, in the Alexandra Hospital cases, in 24 good cures (after suppuration) the shortening was one inch and a quarter; in 2 (also after suppuration) there was no shortening, and in 7 moderate cures the average was three inches and a quarter. Here the balance is in favour of non-excision; for though in 7 cases the average shortening exceeded that in Mr. Croft's 13 cases by half an inch, yet in 26 cases of non-excision the shortening was less than half the average amount in Mr. Croft's excision cases. In Mr. Wright's 100 cases of excision, the shortening is given in only 30. In them the average amount was only one inch and a half. In some it was only a quarter of an inch, and in several it was under one inch. These results are the best I have seen recorded, and they are not only very much better than those of Mr. Croft, but also than any I have observed in cases under the care of other surgeons that have come under my notice. The average shortening in cases of suppuration recently treated at the Alexandra Hospital is one inch (see next lecture).

While I am speaking of excision I may be allowed to express a hope that Mr. Howse, who has, I believe, performed more operations of this kind than anyone else in England, but who has not yet published the results he has obtained, may shortly find time to give us his experience. The statistics he could lay before the profession would be of the greatest value, and would furnish us with facts in regard to many important and still warmly debated questions upon which we possess at present but very meagre information.

Before leaving this part of the subject, I wish to allude to Mr. Croft's view that "when pus associated with panarthrititis (or strumous disease of joints in children) is known to be present, even if the surgeon is uncertain with regard to the state of the bones he would excise." I cannot but regard this rule, when it is thus made absolute, and stated without qualification or reservation, as altogether misleading, because it ignores cases that are frequently met with in which the formation of an abscess is intimately connected with the curative process, and takes place as the immediate precursor of sound and permanent recovery.

The cases I allude to are those in which the tuberculous process has come to an end, and in which the tuberculous material, having become necrotic, plays the part of a sequestrum. Around this effete material an abscess forms, and with its evacuation the necrotic products are also swept away, with the result that the tissues are enabled to return to a normal condition. Such abscesses as these belong to the general class which Sir James Paget has termed "residual." They form, in chronic joint disease, quietly, without pain or fever, and often very rapidly. If left, they frequently attain a large size, and, if evacuated with due care, they frequently heal without any further formation of pus; or they heal in five or six weeks, often at last secreting no pus, but merely clear, amber-coloured serum. Some, indeed, cease to increase, and remain quiet, and are at length completely absorbed.

* *Clin. Soc. Trans.*, vol. xlii, p. 78.

Others, if left, burst spontaneously and then quickly and safely heal. Thus, as I have remarked already, an abscess often constitutes the last step in repair. Obviously to excise a joint in such cases as these would be a calamity to the patient and a reprehensible step on the part of the surgeon.

The cases met with at the Alexandra Hospital contain, I think, conclusive evidence upon a point of much importance bearing on the employment of excision. I mean the frequency with which necrosis in mass occurs in hip disease so that sequestra are produced of such a size and consistence that an operation is required for their removal. It has been maintained, not only that such sequestra are often present, but that the whole head frequently undergoes necrosis and is detached.

Now that both this necrosis of the whole head and necrosis of any part of the head of the femur or of the floor of the acetabulum—so that firm sequestra, requiring operative interference for their removal, are formed—is rare, becomes clear when the evidence before us is carefully examined.

First, as to the necrosis of the whole head and its separation as a sequestrum, my own experience is that it is a very rare occurrence. So far as I can remember I have met with only four examples of it; and Mr. Bowlby informs me that neither at the Alexandra Hospital nor at St. Bartholomew's Hospital, where he has been surgical registrar for several years, has he ever seen it in a patient or found it in the *post-mortem* room.

Secondly, the table I have drawn up (see next lecture) contains 37 cases of suppuration, in many of which discharge continued for some months and several sinuses formed. And I lately examined 16 cases in Mr. Bowlby's ward, in many of which suppuration had extended over a considerable period. In these two groups of cases, upwards of 50 in number, the sinuses were all soundly healed with four exceptions, in which they were quite trivial. But in no single instance among them had any sequestrum been either removed by operation or extruded in the discharge.

Now, in a very large proportion of these cases there can be no question that the bones were extensively diseased; while in many of them the situation of the sinuses above Poupart's ligament indicated that the pelvis was involved. Thus, in upwards of 50 cases there was not one in which the presence of sequestra prevented the sound closure of any sinuses that had formed. I have met with the same experience in numerous other instances, so that it is evident either that sequestra are rarely produced, or that they are so soft and friable that they are readily disintegrated and removed in the discharge. The true explanation, I believe, is to be found in the fact that the bones are composed of cancellous substance, rich in marrow and blood vessels. When this vascular structure is involved in chronic inflammation its earthy constituents are removed and the bone is reduced to a soft material. Such a structure may, like any of the soft parts, be destroyed by ulceration and undergo complete removal. In some cases, no doubt, considerable masses of bone lose their vitality, but they are so soft that they are easily broken down and got rid of.

The results to be obtained without operative interference will be discussed in the next lecture.

THE ETIOLOGICAL IMPORTANCE OF GONORRHEA IN RELATION TO SOME OF THE MORE COMMON DISEASES OF WOMEN.¹

By CHARLES J. CULLINGWORTH, M.D., F.R.C.P.,
Obstetric Physician to St. Thomas's Hospital.

THERE is little doubt that, although gonorrhœa in the female is still regarded in this country as a comparatively unimportant affection, it really destroys the health of a larger number of women than does even the poison of syphilis. As a rule, the earlier indications of the disease pass unregarded. They are attended with but little pain, probably none when the urethra is not involved, and the significance of the purulent discharge is not understood. Hence it frequently happens that medical advice is not sought until a later stage, when the infection has had time to inflict serious, and sometimes life-long, damage on important organs. And even if advice is sought earlier, it is seldom that the disease is regarded seriously,

¹ Read before the Metropolitan Counties Branch (South London District).

or that vigorous treatment is adopted. It is because I am convinced that this state of matters is one greatly to be deplored that I have selected the subject for my address this evening, especially as I am able to illustrate what I have to say by several highly instructive cases that have been under my care during the past few months at St. Thomas's Hospital.

Attention has been already called to this question by several well-known writers, amongst whom may be specially mentioned Noeggerath,² of New York; Snger,³ of Leipzig; Schwarz,⁴ of Halle; the late Angus Macdonald,⁵ of Edinburgh; Mr. Lawson Tait,⁶ of Birmingham; and Dr. W. J. Sinclair,⁷ of Manchester, to whose excellent monograph I have been particularly indebted.

Acute gonorrhoea in the female is generally described as consisting mainly of an acute vaginitis. This, however, is not in accordance with ordinary clinical experience. It is even doubtful whether vaginitis occurs at all in the majority of cases; if it does, it is usually slight in degree, and of very little importance. The lesion most constantly present is inflammation of the ducts of the vulvo-vaginal glands, and of the parts immediately surrounding their orifice. In a considerable number of cases there is urethritis, and not uncommonly there is redness with swelling, and, occasionally, superficial ulceration of the nymphæ. But a more frequent lesion than either of the two last-mentioned is inflammation of the cervical mucous membrane, with more or less catarrhal erosion on the portio vaginalis and a purulent discharge.⁸ It is this liability of the cervix to early infection that gives to gonorrhoea in women so serious a character; for when once the disease has established itself in the cervix, and it may do so at the outset, the infection easily travels, or is conveyed, to the interior of the corpus uteri, and thence to the Fallopian tubes, pelvic peritoneum, and ovaries, parts quite beyond the reach of local treatment.

And it must not be supposed that only those women who lead an evil life become the victims of these internal inflammations of gonorrhoeal origin. On the contrary, it is to their occurrence that the breakdown in health, following marriage, in previously healthy girls, is often traceable. The views of Noeggerath as to the latency and incurability of gonorrhoea have been treated with too much contempt. As to its incurability, no doubt, he was wrong; he himself has admitted as much. Nevertheless, the credit is due to him of having first drawn attention to the fact that a gonorrhoea in the male, supposed to have been long cured, may be roused by marriage into renewed activity, and so may be unwittingly transmitted to the wife.

The usual results of gonorrhoeal infection in the newly married are seen in the following case:

CASE I. Gonorrhoea Contracted immediately after Marriage: Salpingitis, Pelvic Peritonitis, and Cellulitis.—M. B., aged 19, admitted into St. Thomas's Hospital, under my care, October 15th, 1888, was a strong healthy girl, never having had a day's illness until her marriage, three months previously. About a fortnight after her marriage she began to suffer from a thick yellow vaginal discharge, followed by painful micturition. On ten different occasions, during the past three months, there had been a discharge of blood from the vagina, lasting three or four days at a time. The pa-

tient complained of pain in the right hip, shooting inwards to the vulva, and downwards to the calf of the leg.

On examination no signs of inflammation were found about the vulva beyond a little redness around the orifices of the gland ducts of Bartholini. The vaginal mucous membrane was natural in appearance. A purulent discharge was seen to be issuing from the os uteri, surrounding which there was a narrow zone of catarrhal erosion. Bimanually there was a hard swelling to be felt, occupying the region of the left broad ligament, depressing the vaginal roof on that side, and pushing the uterus towards the right of the middle line. The mobility of the uterus was impaired.

Twelve days later the uterus was more fixed, and the swelling had extended to the front of the uterus. There had been a good deal of pain during the last few days in the left iliac region. The temperature was generally under 100°; it rose, however, on two occasions a few hours after examination. On October 31st the anterior swelling had extended downwards along the upper part of the anterior vaginal wall, which bulged considerably, pushing the cervix backwards and upwards as well as to the right. On November 3rd there was felt, for the first time, thickening on the right side. Four days later the swelling in front had diminished, and there could now be clearly made out, in the left fornix, a tense oval swelling, which was thought to be a hydrosalpinx. For some days the patient had complained of pain and tenderness in the right iliac region. On November 5th she had aching down the left leg. These pains gradually disappeared, and on November 13th she expressed herself as feeling well. On the 20th she began to menstruate, and the following day was allowed to sit up a little. A week afterwards she was made an out-patient. I last saw her on February 2nd, 1889; an irregular thickening was then still perceptible in the left fornix.

This patient's husband had gonorrhoea twelve months before marriage, and believed himself to be cured.

A very common result of a gonorrhoeal salpingitis is the sealing up, by adhesive inflammation, of the fimbriated extremity of the Fallopian tube. This condition is beautifully shown in a specimen on the table, in which the outer portion of the occluded tube has become distended, forming a large hydrosalpinx. This very accurate and carefully coloured drawing of the preparation, as it appeared on removal, was made for me by Mr. Holding. When both tubes are thus closed, which they frequently are, it is evident there must be sterility. It is pretty certain that this is at least one of the reasons why prostitutes are so often sterile. But this sealing up of the free extremity is not the only or the worst effect of gonorrhoeal infection upon the Fallopian tube. The whole mucous membrane lining the tube becomes inflamed and swollen, and a purulent secretion is poured out, which is liable to become encysted in the closed tube or in portions of it, forming a pyosalpinx, with its attendant miseries and dangers. In fact, pyosalpinx appears to be generally of gonorrhoeal origin. I shall show presently that gonorrhoeal salpingitis may also be attended with destructive ulceration.

The peritonitis induced by gonorrhoeal infection is not usually very acute, or attended with severe symptoms. It is at first limited to the parts contiguous to the free extremity of the diseased tube, where thickening takes place, with adhesions and matting together of the contents of the pelvis, especially of the tube, ovary, and broad ligament. The functions of these parts become seriously disturbed, and there is produced, on the affected side, a mass of irregular and ill-defined thickening, which can be readily made out on bimanual examination. The mobility of the uterus is also impaired.

The case which furnished this specimen of hydrosalpinx is of such exceptional interest as to be worth relating.

CASE II. Gonorrhoeal Salpingitis: Hydrosalpinx of Right Tube Removed by Abdominal Section: Death: Necropsy: Ulceration of Intra-Uterine Portion of Both Tubes, with Perforation at Each Cornu of Uterus: Old and Partially Cicatrised on Left Side, Recent on Right: Pus Lying in Pelvis.—M. C., aged 19, single, was admitted into Magdalen Ward in May, 1888, and transferred to Adelaide August 20th, 1888.

At the latter part of 1887 she had a yellow vaginal discharge, with pain in both iliac regions, lasting for eleven weeks. After being better for a month these symptoms recurred in March, 1888, when a swelling developed in the left side, which varied in size from time to time. On admission to Magdalen she complained of pain only on the left side; she had a thick purulent discharge, which was more profuse when the swelling was less marked, and less so when it became hard and well-defined. Sometimes the

² Noeggerath (E.), *Die latente Gonorrhoe im weiblichen Geschlecht*, Bonn, 1872. Latent Gonorrhoea, especially with regard to its influence on fertility in women, *Trans. Amer. Gynecolog. Soc.*, vol. i, 1876, p. 268.

³ Snger (M.), Ueber die Beziehungen der Gonorrhoeischen Infektion zu puerperal-Erkrankungen, *Verhandl. der deutschen Gessellsch. f. Gynk.*, Leipzig, 1886; *Etiology, Pathology, and Classification of Salpingitis*, *Amer. Journ. Obst.*, March, 1887.

⁴ Schwarz (E.), *Die Gonorrhoeische Infektion beim Weibe*, *Samm. klin. Vortrge*, Leipzig, 1886.

⁵ Macdonald (A.), Latent Gonorrhoea in the Female Sex, with special Relation to the Puerperal State, *Trans. Edinb. Obst. Soc.*, see *Obst. Journ. Gt. Brit.*, vol. i, 1873-4, p. 251.

⁶ Tait (Lawson), *Diseases of Women*, London, 1877, pp. 19, 88, 114, and 211.

⁷ Sinclair (W. J.), *On Gonorrhoeal Infection in Women*, London, 1888.

⁸ The following case well illustrates the conditions usually met with when the disease is seen at an early stage. M. J. R., aged 32, a lady's maid, was admitted into St. Thomas's Hospital, September 3rd, 1888. Her last menstrual period ceased a week ago. During the flow she noticed that micturition was painful, and when menstruation ceased she observed a thick yellow vaginal discharge. On examination a purulent discharge was seen issuing from the vaginal orifice. The mucous membrane surrounding the openings of the vulvo-vaginal gland ducts was red and slightly swollen. The meatus urinarius was normal in appearance, but on pressing upon the urethra through the anterior vaginal wall, a drop of pus could be made to exude. The vaginal mucous membrane, as seen through the speculum, had a healthy appearance. A mucopurulent discharge was seen issuing from the os uteri, which was surrounded by a complete ring of erosion of a bright red colour, and a quarter of an inch in width. Pus was seen exuding from the swollen orifices of two or three glands in the erosion.

discharge was blood-stained. There was no pain on micturition. During her stay in Magdalen she had an attack of very severe pain in the left side, with a high temperature and extreme prostration, thought at the time to be due to acute ovaritis. [The sequel makes it probable that these symptoms were due to perforation of the intra-uterine portion of the left tube, from ulcerative salpingitis].

On admission to Adelaide Ward, August 20th, there was discovered a slight lateral displacement of the uterus to the left. Lying behind and to the right of the uterus was a not very tense smooth oblong swelling, equal in size to an egg, and giving a sense of fluctuation. I was of opinion that this was a hydrosalpinx of the right tube, and that the tube had become occluded at its fimbriated extremity and bent upon itself, so that the outer distended portion lay behind the inner portion and the uterus. There was still a purulent discharge from the vagina. On the evening of September 12th, after having been examined bimanually, the patient was sick, and complained of acute pain in the right iliac region. The temperature rose to 103.4°, and the pulse to 134. The patient looked ill and somewhat collapsed. The right iliac region was swollen and tender. It was thought that the swollen tube had probably been ruptured, and it was decided, if the symptoms did not improve, that the abdomen should be opened. Next day, however, the patient was much better, and the temperature fell to what it was before the attack. The swelling and tenderness gradually disappeared. On September 22nd, I ventured for the first time since the attack to make a vaginal examination. The result was that I found the retro-uterine swelling unaltered, or, if anything, a little fuller and more tense.

On October 18th abdominal section was performed for the removal of the dilated tube, which the illness of the previous month led me to regard as a source of danger. The dilated tube was pyriform in shape, measuring three inches and three-quarters in length, two inches and a quarter in breadth at its widest, and one inch and a quarter at its narrowest part. The broadest part was at the fimbriated extremity, which was closed. The dilated portion was confined to the outer part of the tube, and was lying behind the uterus, the undilated part of the tube being bent upon itself. There were no adhesions about the swollen tube, and it was removed without difficulty along with the ovary. The contents of the dilated tube were serous. The left tube felt as though it contained hard nodules in the substance of its walls; the left ovary was adherent. There was an adhesion of omentum to the left cornu of the uterus, and another less firmly adherent to the right cornu and adjacent portion of the Fallopian tube.

The patient died of septic peritonitis fifty-seven hours after the operation.

At the necropsy there were some recent peritoneal adhesions in the lower part of the abdomen; a small quantity of thick pus was found in the pelvis. There were two black spots on the peritoneal aspect of the fundus uteri, one at each cornu.⁹ The tissues beneath were disorganised. A band-like process of great omentum passed to the gangrenous spot on the left side, and was firmly adherent there. The cavity of the uterus was of average size; the mucous membrane was coated with fluid blood (menstrual?). On opening the remains of the right Fallopian tube from within, the first half of the intra-uterine portion was normal, the second or outer half was ulcerated, and a perforation, seven millimètres in length, existed on its upper surface, corresponding to the gangrenous spot already described on the right cornu of the uterus. From the outer border of the uterus to the point where the tube had been divided the lining membrane appeared healthy. The left tube was a little dilated, especially at its distal part, which contained some pus. On opening the intra-uterine portion of the tube the inner half of that portion was healthy in appearance; the outer half was either occluded, or at any rate so constricted that a fine wire would not pass. Between the constriction and the black spot on the peritoneal surface the tissues were softened and of a deep red colour. No perforation could be detected. Beyond this were two hard nodules (gummata?) which, on section, were seen to be pale circumscribed masses of exudation, completely surrounding the mucous membrane. The left ovary was of normal size and much softened.

This case offers several points for comment. Here was a girl of 19, otherwise in excellent health, totally incapacitated by pelvic disease resulting from gonorrhoeal infection. In the earlier part of the clinical history it will have been noted that the sym-

ptoms were all on the left side; so decidedly was this the case, that the diagnosis was inflammation of the left ovary. Read in the light of the *post-mortem* appearances, the course of pathological events at that time would seem to have been as follows: Gonorrhoeal salpingitis on the left side, with pyosalpinx, complicated by ulceration at one portion of the tube, namely, at the outer half of the intra-uterine portion; extension of the ulceration into the surrounding uterine tissue, and eventual perforation at the left cornu, with escape of the purulent contents of the tube into the peritoneal cavity, causing peritonitis and dangerous collapse; recovery from the attack, absorption of the extravasated contents of the tube, occlusion of the tube at the site of the perforation during the subsequent cicatrisation, and roofing in of the aperture in the uterus by a band of omentum becoming adherent over it. It may be objected to this theory that it is contrary to general belief that pus can be absorbed by the peritoneum. There is, however, good reason for believing that, whatever happens in the case of ordinary pus, gonorrhoeal pus, when extravasated into the cavity of the peritoneum, excites a local peritonitis, and then under ordinary circumstances becomes encysted and gradually absorbed. There was here abundant evidence of local peritonitis in the numerous adhesions on the left side of the pelvis, by which the ovary was entirely buried, and the free extremity of the tube completely occluded. The two hard masses of exudation in the left tube were probably syphilitic gummata, though I am not able to adduce any evidence of syphilis in other parts of the body. So far as regards the left side. Now let me direct attention to the condition of the right. The tumour formed by the hydrosalpinx was the only pelvic lesion discoverable on bimanual examination, and this I quite hoped might subside. Weeks, however, passed, and the tumour increased in size rather than diminished.

Moreover, the patient had an attack of intense pain on the right side, similar to the one that had occurred some months previously on the left, and attended, like that, with symptoms of dangerous collapse. She recovered quickly, and a month later I opened the abdomen. I only found peritoneal adhesions, a thickened and nodulated left tube, and, on the right side, a hydrosalpinx in the position that had been diagnosed. The uterine perforations I did not see; they were concealed by omental adhesions. I removed the hydrosalpinx, and expected my patient to make a good recovery. Instead of this, she died on the third day from septic peritonitis. I was greatly distressed at this occurrence, fearing that it meant some oversight in my antiseptic precautions. Most minute inquiry was made on this point, but without result. My belief is that the perforation found after death on the right side occurred when the patient had the sudden attack of localised peritonitis, with collapse, a month before the operation, and that the omentum had become adherent to the uterus, and had closed the aperture, the extravasated matter becoming absorbed. The adherent band of omentum was no doubt disturbed by my manipulations, allowing further escape of pus and *débris* from the diseased tube, which, instead of being absorbed, became septic, and so set up the fatal peritonitis. That is the most reasonable explanation I feel able to give of the fatal termination of the case. Two other points I wish to call your attention to, before I pass on, namely, (1) the occurrence in the same tube of a hydrosalpinx at one end and a pyosalpinx at the other, and (2) the fact that rupture of the Fallopian tube may take place at a part where there is no appreciable dilatation. If Dr. Lewers had not happened to mention to me the possibility of rupture occurring under such circumstances, and to recall to my recollection a case of the kind that he had published,¹⁰ I should not have been led to make so careful an examination of the interior of the Fallopian tubes, and the ulcerations and perforations I have described would have remained undiscovered.

I must not, however, forget that I undertook to speak this evening of the relation of gonorrhoea to some of the more common diseases of women. Full of interest as the foregoing case undoubtedly is, it cannot be pretended that perforation of the Fallopian tube is a common affection. I hasten, therefore, to give a brief outline of one or two cases of a more ordinary kind. Take, for example, the following, where the woman became infected after having been married five years and borne two children:

CASE III.—K. B., aged 27, a straw-worker, was admitted into Adelaide Ward June 14th, 1888. The younger of her two children was 2 years and 4 months old. For the past nine months she had suffered from a thick, yellow, vaginal discharge, accompanied with pain in the hypogastric and left iliac regions, and discomfort

⁹ See coloured plate in the *Trans. Obst. Soc.*, vol. xxx, p. 406.

¹⁰ *Trans. Obst. Soc.*, vol. xxvii, p. 298.

both in micturition and defæcation. The uterus was much impaired in its mobility, and a brawny thickening was felt in the left fornix. The posterior and right lateral fornices were normal. There was a slight laceration of the cervix, posteriorly and to the right. After a fortnight's treatment in hospital the thickening had almost disappeared, and when discharged, after having been in a month, she was free from pain, and felt quite well.

There can be little doubt here about the course of events. The gonorrhoeal infection spread to the left tube, and so to the peritoneum, causing a pelvic peritonitis, with adhesions, strictly confined to the parts about the left broad ligament. That the inflammation was not of an intense character was shown by the rapidity with which both the discomfort and physical signs disappeared under treatment.

The next case is one in which the patient became infected at an earlier period of her married life, with the usual results of sterility and recurrent attacks of pelvic peritonitis.

Case iv.—S. W., aged 19, residing at Walworth, was admitted into Adelaide August 8th, 1888, complaining of pain in the lower part of the abdomen and in the right leg. She had been married three years and had not been pregnant. About two months after her marriage she noticed a vaginal discharge, and about the same time began to suffer from pain in the lower part of the abdomen, which had frequently recurred, lasting longer each time. The present attack commenced three weeks ago. The pain was relieved by lying with the knees flexed. The pain down the right leg was a new feature. The temperature was normal in the morning, and varied from 99° to 99.8° in the evening. On bimanual examination, a hard, irregular mass was felt to the left of the uterus and behind it. The symptoms quickly yielded to treatment, and the patient left the hospital on the tenth day declaring herself well.

In the next case, the mischief in the pelvis was of a much more serious character than in the instances last mentioned.

Case v.—E. R., aged 30, was transferred from Christian Ward to Adelaide June 1st, 1888. She was married twelve years ago to a man of loose character, whom she was obliged to leave on account of his ill-treatment of her, and who has now been dead seven years. She has never been pregnant. Nine years ago she had a swelling of the right labium, and has felt ill, and has had a vaginal discharge ever since. For the past six weeks she has had severe pain in the lower part of the abdomen, especially in the right iliac region. A fortnight ago she had an attack of shivering. She was admitted into the medical wards supposed to be suffering from enteric fever.

On bimanual examination the uterus was found displaced forwards, and immovably fixed; cervix immediately behind pubes and diverted to the right. There was a large hard swelling behind the uterus, bulging backwards into the rectum and downwards into the vagina. On the third day after being transferred the evening temperature reached 103.2°, and soon afterwards a profuse discharge of pus took place *per rectum*, followed by signal relief. The abscess continued to discharge for some time; and when the patient left the hospital, on July 8th, her temperature was normal and her condition generally much improved.

I have before me notes of other cases not less instructive, but I must not weary you. I have carefully examined the notes of all the cases of pelvic inflammation admitted into Adelaide during the nine months I have been in charge, and I find that in nearly one-half of them there is a history pointing more or less clearly to a gonorrhoeal origin. This may be, and probably is, an unusual proportion. There can be little doubt that septicæmia, following parturition or abortion, occupies the first place amongst the causes of pelvic inflammation. Next in importance comes, in my opinion, the poison of gonorrhoea. These two sources of infection are together responsible for an overwhelming majority of the cases, a small minority being due to cold, tubercle, injury, internal hæmorrhage, etc.

I have said nothing about the bacteriology of gonorrhoea. I do not in the least underrate the importance of Neisser's discovery of the gonococcus—a discovery which I think has a direct bearing on the question of treatment—but it has been my aim to keep within the lines indicated in the title of my paper, so as to restrict any discussion which may take place within practicable and useful limits.

It will, however, no doubt be expected that, having expressed a strong opinion on the importance of energetic treatment in every case of acute gonorrhoea in the female, I should state my views as to what that treatment should be. Regarding, as I do, the evidence of the

bacterial origin of gonorrhoea as indisputable, I naturally rely for its cure on remedies that have the power of destroying pathogenic micro-organisms. The old system of instructing the patient to syringe the vagina with lotions of lead, borax, or zinc is, or ought to be, obsolete. The local treatment should be undertaken by the medical attendant himself. The patient being placed in front of a window, in the dorsal position, with knees flexed and separated so as to expose the vulva, all discharge is to be wiped away by means of pledgets of cotton-wool, which are to be at once burnt. If there is any abrasion on the nymphæ, it should be swabbed by means of pledgets of lint dipped in strong carbolic acid; as also should the mucous membrane surrounding the orifices of the vulvo-vaginal gland-ducts, after pressing out and removing any pus that may be lying in the ducts themselves. The urethra should then be pressed systematically from the neck of the bladder to the meatus externus by means of a finger in the vagina. If a drop of pus exudes, the urethra is known to be implicated. The method I adopt under such circumstances is to wrap a film of cotton-wool around a Playfair's uterine probe, and, having dipped it in strong carbolic acid and removed any superfluous moisture, pass it along the urethra. I also administer copaiba by the mouth. If that remedy is ever indicated in the gonorrhoea of women, it is when the urethra is infected, and my own belief is that it is then useful.

With reference to the cervix, my treatment is, having removed all discharge from the canal and scraped any erosions that may be present, to apply strong carbolic acid to the scraped surface by means of a pledget of lint, and to the interior of the cervix by means of Playfair's probe. If there is reason to believe that the infection has reached the interior of the body of the uterus, the probe should be passed its full length, so as to bring the application in contact with the entero-mucous membrane of the body as well as the cervix. There only now remains the vagina to be dealt with. Its surface is too large and too sensitive for the application of strong carbolic acid. I, therefore, adopt the plan, suggested by Schwarz, of swabbing the whole vaginal surface through a speculum, with large pledgets of cotton-wool saturated with solution of corrosive sublimate (1 in 1000). These manipulations take much longer to describe than to carry out. They are not really very formidable, and, theoretically, they ought not to need repeating, though, in practice, they often do. I merely mention here the method of treatment I have myself been led to adopt. I am not in a position to dogmatise on the matter, for my experience is not large. Cases rarely come under our notice in this early stage. Whatever treatment be adopted, it should be capable of destroying pathogenic micro-organisms, and of penetrating the tissues to a certain extent, so as to reach any that may be just below the surface. When the infection has passed beyond the uterus, to the tubes, peritoneum, and ovaries, we can only deal with its results as we should with similar conditions of the same parts however caused.

Postscript.—There appeared after the above address was written, and therefore, unfortunately, too late for me to notice it at length, a valuable paper by Professor White, of Philadelphia, entitled, "Oophorectomy in Gonorrhoeal Salpingitis."¹ The author's main conclusions do not materially differ from my own.

ON THE INFLUENCE OF PERMANGANATE OF POTASSIUM ON MENSTRUATION.

By W. STEPHENSON, M.D.,

Professor of Midwifery in the University of Aberdeen.

In a paper on the Treatment of Amenorrhoea by Manganese,¹ published in 1883, Drs. Ringer and Murrell drew attention to what promised to be a rich vein of ore, well worthy of the attention of specialists. Since that time, however, the work remains pretty much as they left it. A few cases have now and again been recorded confirmatory of the opinions advanced, but contrary views have also been expressed, notably by Dr. Braithwaite, of Leeds.² He says he "has given the remedy in not less than forty suitable cases. Any benefit from its use was very seldom met with." My own first impressions, formed from casual observations, were likewise unfavourable. This led me to investigate the subject systematically, with the view of ascertaining the truth. The result

¹ JOURNAL, February 19th, 1889.

² Lancet, January 6th, 1883.

³ JOURNAL, April 30th, 1887.