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This Pamphlet is sent out after the death of the Author with the sole object of making known to the Medical world the great and far-reaching importance of the propositions therein maintained.

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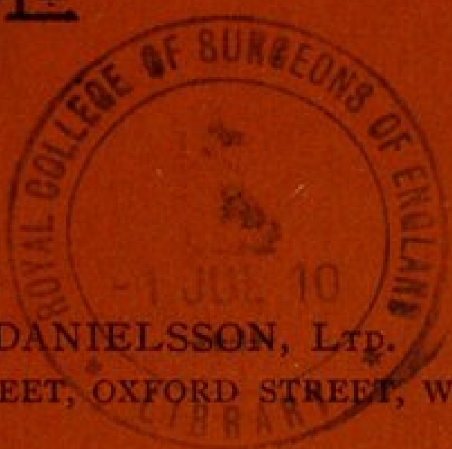
The Treatment of Gonorrhœal Salpingitis

BY

J. W. TAYLOR, F.R.C.S.

Surgeon to the Birmingham and Midland Hospital for Women; Consulting Surgeon to the Wolverhampton Hospital for Women

[Reprinted from the "British Gynæcological Journal," August, 1899]



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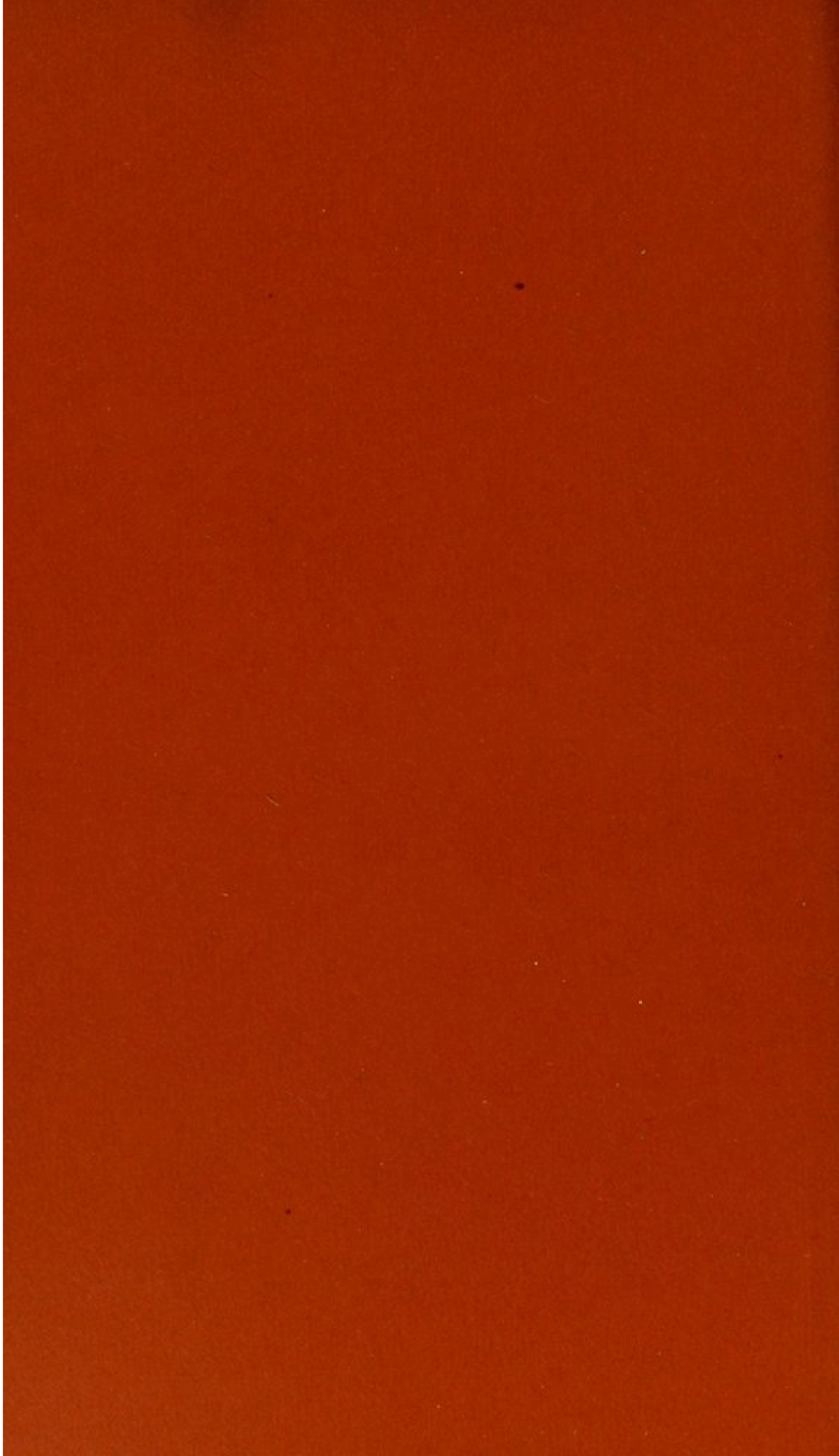

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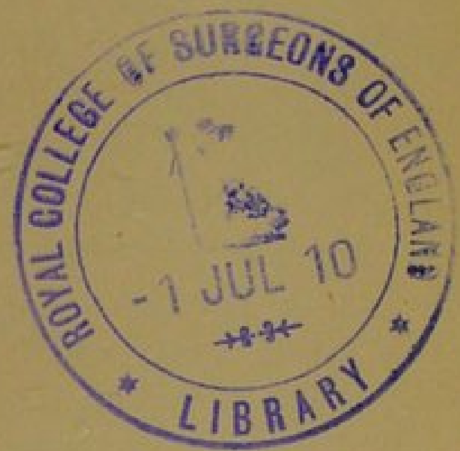

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THE Treatment of Gonorrhœal Salpingitis.

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GONORRHŒAL salpingitis is now a well-recognised disease, but many of us can remember the time when the connection between "inflammatory disease of the uterine appendages" and gonorrhœa was by no means established.

When Noeggerath published his treatise in 1872, maintaining that gonorrhœa had dreadful consequences; that it was the main cause of pelvic peritonitis and sterility, and that it was practically an incurable disease, men first of all looked upon him as a wild dreamer and enthusiast. Then, little by little, abundant evidence was found to corroborate most of his assertions, but it was only very slowly that his work received any recognition or support. It was not until some ten or fifteen years later that the seriousness of gonorrhœa in the female began to be generally recognised, and enterprising surgeons began to operate freely for inflammatory tubal disease by removal of the uterine appendages.

At first, operation was generally limited to the removal of the appendages on the side chiefly or solely affected at the time when the operation was undertaken, but the after-history of these cases was not altogether satisfactory. In many instances extension of the disease occurred on the opposite side, and in a short time the patient was in quite

as bad a condition as before operation, so that a second section was needed for the removal of the remaining appendages.

In consequence of this, attention was directed to the advisability of complete removal of the appendages in all cases of operation for "inflammatory disease." Papers were written on the subject—notably one by Mr. Tait—advocating this treatment, and for a considerable time it was accepted as final that thorough removal of the uterine appendages by abdominal section was the one and only cure for gonorrhœal salpingitis.

But there were difficulties in the carrying out of this advice, and the results, while in some cases very successful, in others were decidedly disappointing. In separating the adhesions, which were often very dense, the bowel—particularly the sigmoid flexure and rectum—was liable to injury, generally in inaccessible regions. Further, the ovary, when peeled or torn away from its surroundings, left some of its tissue behind it, and with this there was often persistent menstruation; the uterus, which had evidently been the centre of infection throughout, remained untouched, and in a small proportion of cases, notwithstanding the utmost care, local peritonitis and fæcal fistulæ resulted, while in others, notwithstanding the utmost thoroughness, menorrhagia and pain persisted after operation, the hæmorrhage in some of these cases being rather aggravated than otherwise by the means undertaken for the cure of the disease.

In the meantime, while this experience was forming, or, at all events, before it had been fully formed, Péan and Segond in Paris, Doyen of Rheims, and Landau of Berlin, recognising the gonococcus as the source of the disease, and gonorrhœal endometritis as the starting-point of infection for both Fallopian tubes, not only argued with true logical deduction that the uterus should be removed, but proceeded directly to put this reasoning into practice, and began treating cases of inflammatory tubal disease by ex-

tirpation of the uterus as well as removal of the tubes. This was done by the vaginal route, and the result was, on the whole, more satisfactory perhaps than any treatment previously adopted. At all events the treatment was a radical one, and if the patient made a satisfactory recovery, there was, of necessity, no further trouble from uterine hæmorrhage, or from the pain and distress accompanying the pelvic congestion recurring at each menstrual period.

This practice has never been thoroughly adopted and followed in England as a primary procedure, but many English surgeons (including myself) have been over and over again glad to avail ourselves of vaginal hysterectomy as a cure for rebellious cases, and it would be difficult to speak too highly of its value when every other means has failed.

On looking back over all this period of strenuous surgical effort—whatever may have been its mistakes of enthusiasm and misdirected energy—we cannot withhold a hearty acknowledgment of the courage, the perseverance, and the honesty of purpose which marked in the main each point of progress, or a warm appreciation of the splendid saving of life which has attended one department of the work from the very beginning—viz., the operative treatment of pyo-salpinx.

It must, perhaps, be remembered, on looking back over this period, that the issues involved in the work then beginning were by no means so simple and definite as represented in my imperfect sketch. Side by side with the question of the cause of pelvic inflammation and its treatment was the question of its seat—whether it was usually within the peritoneum ("perimetritis") or in the cellular tissue outside it ("parametritis")—and with the elucidation of this problem Birmingham was, perhaps, more directly concerned than with that which I am now more immediately discussing. In addition to these two problems a subsidiary one, but one more pressing, was the question of the danger of this "pelvic inflammation" if left alone;

and there can be no doubt that some operators were so impressed with this danger, and so impressed it on their followers, that for a considerable period the finding of any inflammatory tumour in the pelvis was considered a valid reason for immediate abdominal section.

All this has been vastly altered during more recent years. With greater knowledge and more certainty of diagnosis there is more careful differentiation of grades of inflammation and the necessities of individual cases ; we know better what may be expected from rest and medical treatment, and operation is reserved for the minority of cases—or, if this goes too far, is certainly not practised anything like so frequently as in former years.

But what about these cases—cases of undoubted salpingitis—that are not operated upon ? Do they, if they improve under rest and hygienic treatment, necessarily relapse and get worse again, as we formerly thought, or do they get permanently well ?

These are questions which I felt needed answering, and as I could not find any answer that I could trust, I set myself to study the disease as well as I could, hoping to find the information I needed by experience.

If I am not in a position to speak as definitely as I should like this evening, I feel I have learnt during the past thirteen years a few facts about the history of the disease and its course under treatment that influence my own practice and justify me, I believe, in bringing the subject before the notice of my colleagues.

One of the first things that struck me in the clinical study of salpingitis was the frequency of a syphilitic history ; indeed, in many cases it was more easy to elicit this than any clear history of a gonorrhœal discharge, and for some time it was a question with me whether syphilis was not a factor in the causation that had been overlooked.

Gonorrhœa—the gonococcus — was perhaps the only source of gonorrhœal inflammation in the mucous mem-

brane of the tube, but was it the sole cause of tubal obstruction, tubal distension, and pyo-salpinx ?

In some cases of pyo-salpinx possessing a syphilitic history, I have found at the operation a clearly defined nodule of thickening at the uterine end of the tube—a nodule which, on section, had all the appearance of a syphilitic gumma. In all cases of marked pyo-salpinx the abdominal ostium of the tube is more or less occluded by tubal and peri-tubal swelling, and it is at all events possible that a syphilitic thickening of the tube may assist in the contraction of the abdominal ostium which appears to be the necessary and immediate cause of tubal distension from retained secretion.

On consideration, however, of other cases of acute pyo-salpinx in which there could be no syphilitic history, and in which the obstructive swelling at the uterine end of the tube was amply accounted for by the acuteness or severity of the inflammation surrounding it : on consideration, too, of what I may term the natural frequency of the two diseases in the same individual, I felt that the point—interesting as it might be—was of little practical value, and that in all probability the ratio of syphilitic and non-syphilitic cases was not appreciably different to the ratio of syphilis with gonorrhœa, and gonorrhœa alone, irrespective of tubal disease.

So far, if my work had not been misdirected, it was barren of any very profitable result. But, after a time, another point began to engage my attention, which bids fair to be of greater value.

This point I may perhaps express as *the greater tractability of gonorrhœal salpingitis in syphilitic subjects ;* in other words, after some months or years of treatment I found a perfection of cure in my syphilitic cases that I failed to secure in cases of pure and uncomplicated gonorrhœal origin.

Before we consider the reason of this, and as I do not want you to take anything for granted, I will run over as

shortly as possible a few of my cases which are more prominently in my mind.

Mrs. C. is a patient I have known and watched for fifteen years. When first I saw her (in 1884) she was suffering from syphilis contracted from her husband, and had recently had a miscarriage (at four months), which I considered to be due to syphilitic disease.

On recovering from the miscarriage she almost immediately showed signs of gonorrhœal infection—a dangerous time for infection to take place, as the uterus is temporarily dilated. She had gonorrhœal vaginitis and the inflammation spread upwards. Pelvic inflammation followed, and a mass formed in the pouch of Douglas having all the characters of an enlarged or distended tube. For nearly the whole of the next year (1885) she was rather seriously ill—a constant patient—and was kept on mercurial and iodide treatment. The tubal tumour did not materially alter, and I was thinking of removing it by operation when, in September of this year, she unexpectedly became pregnant. The complication of a (possibly) syphilitic pregnancy, very liable to abort, and gonorrhœal salpingitis was specially awkward from a surgical point of view, and as the general condition of the patient had improved, I decided to wait, maintaining the anti-syphilitic treatment mainly for the sake of the coming infant. The patient went to her full time, and was delivered on May 29, 1886, of a boy, who remains alive and well to the present date. After pregnancy was over the tumour of the damaged appendage was still to be felt. Occasional, but no persistent treatment was maintained, and although the tumour steadily decreased in size and fixity, I find from my notes of occasional consultations after this date that it was not until 1890 that all traces of the tumour had disappeared. This disappearance has been final.

About eighteen months or two years ago the patient's husband died. She has rather recently married again—much more happily, I believe—and is now (at the present

date, November 14, 1898) about six months' pregnant, without a trace of discoverable disease on the most careful examination.

Mrs. D. I have known and occasionally attended for eighteen years. A short time after her marriage she was infected by her husband with syphilis, and left him. For some twelve years she maintained herself, every now and then having some transient syphilitic symptom or affection which received temporary attention, but the treatment was left off as soon as the symptom was relieved. On the whole, she had fairly good health, and at no time did she have any pelvic, menstrual, or vaginal trouble.

In 1892 a reconciliation was effected with her husband, and she returned to him. Early in 1895 she began to suffer with pain in the right side, right leg and hip, worse on standing, walking, or changing position, but not worse at night. At first nothing definite could be found. She went to the seaside for a change, and while there was seized with violent peritonitis, during which, I understand, her life was despaired of. She had the advantage of every comfort and advice, and a London opinion was obtained for her. After some weeks of careful nursing she returned to Warwickshire, a thorough invalid, and I again saw her. I then found marked disease of the uterine appendages on the right side. The inflammatory mass formed a rather large tumour, and the parts were fixed, but there was no fluctuation, or evidence of any marked collection of pus. I thought an operation would be necessary, but the patient wished to avoid it, and I was ready to try the effect of further treatment. Knowing her old history, and how well she responded in former days to anti-syphilitic treatment, I gave her grain doses of hyd. c. creta and five to eight and ten-grain doses of iodide of potassium. This she has taken ever since, and with steady improvement—improvement without the slightest relapse. She has now no trace of disease on bi-manual examination. She is in robust health, and can walk ten or twelve miles with enjoyment.

Mrs. E. is a patient I have also known for about eighteen years, though I have only very rarely attended her. During a large portion of this time she and her husband have been under the care of Dr. Bull, of Sparkhill. He has attended both of them for gonorrhœa and syphilis.

In July, 1895, I was asked to see Mrs. E. in consultation with Dr. Bull. She had been confined to her bed for some weeks. She had severe abdominal and pelvic pain, and her temperature had been varying between 100° and 102° F. I found well-marked tubal disease—a mass on the right side reaching above the groin—but the exudation was hard and resistant, and there was no evidence of any large collection of fluid.

I advised mercury and iodide as in the previous case, arranging, however, to see her again if there was no improvement, so that operation might be undertaken if necessary. From this date the patient steadily improved. I saw her nearly a year afterwards, and there was no trace of the old disease. I wrote to Dr. Bull last week, asking for news of her. He states: "Mrs. E. is in good health, and is now managing a business." This patient has had a child since her attack of salpingitis, but it was born at seven months and only lived one day.

Mrs. F. was brought to my hospital out-patient room on Feb. 26, 1896, by Dr. Vince. She was 20 years of age, and had been married nineteen months. She had one child, living, and of good general health. Pain had been complained of in the left side for six months. This was steadily increasing, was worse one week after menstruation, and prevented her from attending to her duties. The case was already recognised as one of gonorrhœal salpingitis, and my opinion was asked regarding operation. I found a hard, tender mass to the left of the uterus, rather fixed, and agreed with the diagnosis already made. I had some talk with Dr. Vince regarding my experience of these cases and asked him if there was any history of syphilis as well as of gonorrhœa. On March 3, I received the following note

from him :—"Since seeing you, I have found there is a distinct history of syphilis in the husband. He is under me now with brain trouble, probably gumma. He has a gonorrhœal discharge at the present time, and the baby is practically blind from gonorrhœal ophthalmia." I thought it quite possible that the case might improve with specific treatment, and ordered the patient a mixture of the red iodide of mercury (gr. $\frac{1}{8}$) with iodide of potassium (5 grs.) to be taken three times a day (a formula which I use largely for continued administration). This she has now taken continuously for nearly three years, and with steady improvement — improvement in which there has been no history of relapse whatever. The recovery has been slow but sure and uninterrupted. More than a year after the treatment was begun I find this note :—"Appendages palpably diseased on both sides, but not tender."

To-day (November 10, 1898) I have examined her and find that the right ovary is still fixed, but this is the only pathological condition to be found. The patient herself states that she is perfectly well, has no pain or discomfort, and wishes to know if she may discontinue her attendance.

I could, if I liked, supplement these cases by several others, but the four I have cited will, I think, suffice. Everyone must acknowledge that they are capital examples of cure after severe gonorrhœal salpingitis. One patient can walk twelve miles with comfort, another manages a business which she has taken up since her illness, another who has only just regained her full health has, nevertheless through the time of treatment, been attending to the cares of her family and the needs of her syphilitic husband, while another, after seven years of freedom from disease, has buried her miserable past, married again, and is six months pregnant with the first child of a second family.

Can anyone show similar cases of recovery after gonorrhœal salpingitis in non-syphilitic cases? I confess that until quite recently I could not produce them or anything really approaching to them in my own practice. And if the

general consensus of skilled professional opinion is to be trusted, there has been no expectation of or belief in similar results since the publication of Professor Sinclair's book in 1888.

If the cases I have brought forward, then, are at all exceptional in their recovery, to what are we to attribute the happy issue ?

Is the poison of syphilis in any way antagonistic to that of gonorrhœa ? I do not think this can be maintained for a moment. The one disease does not in any way prevent the other, and *untreated* cases of both diseases in the same individual are among the very worst that I have encountered. I am forced to the conclusion that the treatment of the case is the main factor in recovery, and I am far more interested in putting this fact as clearly and forcibly as I can before the notice of the Society than in maintaining any special theory of its mode of action. At the same time, when I consider the difficulty in the untreated disease, not so much of obtaining temporary resolution of inflammatory products—this can often be obtained by simple rest in bed—but of obtaining a cessation of relapses and a steady progress towards permanent recovery, and when I find this recovery repeatedly following a prolonged and uninterrupted course of special treatment, I question whether this effect is attained simply by promoting absorption, but am more inclined to believe that the mercury, collected in the tissues of the body after persistent administration, has some direct antagonistic action to the vitality and spread of the gonococcus in the deeper layers ot the mucous and in the submucous tissues. In contradistinction to the opinion expressed by most writers of the last decade, *I believe it may be possible to destroy the power of latent gonorrhœa, as well as that of the distinctly local and acute affection, and that this may be attained in a marked degree by the use of the very same means by which we attack the poison of syphilis.*

Since coming to this conclusion I have treated several

cases of pelvic gonorrhœa uncomplicated with syphilis by mercury and iodides, and, in every case in which it has been possible to continue supervision and treatment, I have had very similar results to those already reported. It will be obvious, however, that in most of these cases the duration of treatment has been as yet insufficient to fully test the value or permanence of its results, and that without general acceptance of the principles on which the treatment rests there is, and will be, no likelihood of obtaining the same hearty co-operation on the part of the patient and medical attendant that is so well and cheerfully given in syphilis. One case in point is that of Mrs. G. She came to my out-patient room on September 23, 1896, with a history of abdominal and pelvic pain of some months' standing. She was also suffering from a chronic vaginal discharge. On examination I found that both of the uterine appendages were inflamed and adherent—that on the right side was adherent to the uterus only—that on the left was adherent to the pelvic wall. On October 22, I put her on the biniodide mixture to which I have already referred. She took it during October, November, December and January, and at this date was so much better that only faint traces of any disease remained in the pelvis, and she herself refused further attendance. For half a year I did not see her. She returned on July 8, 1897, complaining as before. Treatment was resumed, and she has continued it until the present date. The uterus is perfectly free and movable, and there is no trace of disease to be found on examination.

Another case of different type—recent and acute (the notes of which are entirely furnished by the patient's medical attendant), may fitly close the series to which I ask your attention at this stage of my paper :

"Mrs. H., age 30, has three children. The last child was born on March 25, 1898, and a good recovery was made from the confinement. After a short visit to some friends in the following July, Mrs. H. returned home on July 16, in the best of health. On July 19, she felt some vaginal

irritation, followed by vaginal discharge, and on July 22 (the doctor states) I was called in to see her. I found her in bed, suffering from great abdominal pain, more especially on the right side of the abdomen, and from a profuse purulent discharge from the vagina. The temperature was 101° F., and in the evening this rose to 104° F. On inquiry and examination of the husband, I found that he also had a discharge from the urethra, which, to my mind, was a typical gonorrhœal discharge. As important questions were involved in the diagnosis, specimens of the discharge were sent to London for bacteriological examination, and gonococci were found in abundance.

"The pain, temperature, and discharge continued in spite of douching and other remedies. On August 9, Dr. Annie Clarke saw her in consultation, and found the uterus fixed and the right half of the pelvis completely roofed by hard inflammatory swelling.

"On August 21 acute pain was complained of on the left side of the abdomen.

"On August 31, it seeming probable that some operative interference might be needed, Mr. Taylor, of Birmingham, was called in. Gonorrhœal salpingitis, with its attendant sub-peritoneal exudation, was found on both sides, but at only one point was there any indication of possible 'pus' formation.

"Specific treatment was advised in the form of a biniodide mixture, and suppositories of ichthyol were ordered for vaginal use.

"From ten days to a fortnight after this date there has been steady and continued improvement. The patient got up for the first time on September 25."

In a letter dated November 14, 1898, the doctor writes:—

"I am glad to tell you that at last our patient is out again, free from all pain and discharge, but naturally very weak after her long and trying illness. I made a vaginal examination last week and all that was to be felt was a hard, cord-like band running across the roof of the vagina on the left side. The right side was apparently quite normal."

The view of the disease and its treatment which I have presented for your consideration has not only its medical but also its surgical aspect.

If we may hope for some radical control of pelvic gonorrhœa from medicine not only will operation be less frequently necessary, but partial operations which were formerly derided and stigmatised as useless will find a legitimate use, and prove, in conjunction with medical means, a higher and better method of treatment than that of complete removal of the appendages so strongly urged in former years.

For instance, the free opening of pus-cavities without ablation of the uterine appendages or the removal of a pyo-salpinx of one side only when the tube and ovary of the opposite side are so far free from disease and perfectly healthy, may be good practice, and is sound in principle if we can guard against the extension of disease.

As an adjunct or handmaid to surgery, too—after operation has been performed—the specific treatment of the patient may sometimes ensure a success that otherwise might be wanting. When the wound refuses to heal, the stitches are ulcerating out—the drainage track is sloughing—the temperature hectic and the appetite wanting—when the case seems slowly going to the bad some two or three weeks after the immediate danger of the section has been successfully passed (a not very uncommon sequel after abdominal section for pelvic gonorrhœa with abundant pus-formation and almost confined to this class of case), the power of the biniodide to improve the condition in my own hands has been marked and almost immediate in its action.

If my contention is right, we may hope, from the use of specific treatment, for a selective action in cases before operation—limiting the necessity of the latter—for a greater freedom of choice during operation of various methods more or less conservative, and finally (after operation) for its influence as an aid to recovery that may materially improve both immediate and remote statistics.

This brings me to the consideration of pyo-salpinx and its treatment.

I incline to the belief—based mainly, perhaps, on clinical and operative observation—that dangerous pyo-salpinx is but rarely a purely gonorrhœal disease, that it is usually a product of mixed infection, and that the more dangerous element comes from the intestinal tract.

It is always—or nearly always—started by gonorrhœal inflammation, but so long as it remains a sac of purely gonorrhœal pus it is usually small and only rarely dangerous. But as the pus-sac enlarges it comes into immediate relation with the bowel, and usually with the sigmoid flexure and rectum. The pus-sac is infected from the neighbouring bowel—like a broad-ligament pregnancy under similar conditions—the condition becomes urgent, the patient cannot sleep for pain, and the temperature, though sometimes unreliable, may rise to high pyrexia.

Then operation is needed, and no unnecessary delay is permissible, and the operation I wish to recommend with the utmost force of which I am capable is that of posterior vaginal cœliotomy—the thorough opening of the pouch of Douglas from the vagina—the digital and bi-manual exploration of the tumour or tumours from this situation, the tapping of all pus-cavities deliberately carried out, the enlargement of all openings thus made, and the establishment of pelvic drainage from all infected parts by a tampon or tampons of iodoform gauze.

If this operation is done as I have advised—by free incision (no puncture or simple tapping is sufficient)—the urgent symptoms are at once and thoroughly relieved, a condition of imminent danger of death is converted sometimes as if by magic into one of peaceful rest and happy convalescence.

The maximum of relief—I speak advisedly, for the peritonitis following removal of a double and adherent pyo-salpinx is often severe, and the after result in no way better than that attained by the operation I am advising—

the maximum of relief is attained with the minimum of danger and the minimum of injury to the sexual organs concerned. I have repeatedly employed this method of treatment during recent years and have followed it up in most cases (so far as I have been able to do so) by specific treatment. In each of these cases I have been more and more satisfied with the efficiency of the means employed and impressed with the vast superiority of this operation over the removal of the tubes by abdominal section.

The following cases may be taken as recent examples of its value :

Mrs. I., aged 28, had been married four years. Her husband confessedly had contracted gonorrhœa since his marriage. Six weeks ago the patient had a green discharge from the vagina, and for four weeks had suffered with severe abdominal pain.

I saw her on the evening of May 25, 1898, in consultation with Dr. Milligan.

She evidently had some general acute peritonitis. The abdomen was distended and tympanitic ; the legs drawn up. She had frequent vomiting, a pulse of 120, and a temperature of 103° F. She was very feeble, very restless, and crying with pain. On vaginal examination a mass was found in the pouch of Douglas, and pushing the uterus to the left. The tumour was acutely tender. A dose of calomel was ordered to be given at once, followed by frequent enemata, and it was arranged to move the patient to my house for operation on the following day. On May 27 I opened the pouch of Douglas, separated adhesions, and evacuated a large quantity of foul pus from the right Fallopian tube. The abscess cavity was washed out and packed with iodoform gauze.

In the evening her pulse was 96. She was comfortable ; her bowels had been opened with a simple enema, and she had a fairly good night's rest afterwards, "the first good night for weeks." The patient made a good recovery.

Mrs. J., aged 24, married four years, came to my out-

patient room on August 25, 1898, complaining of abdominal pain and dyspareunia, which had been increasing for six months. On examination I found what I took to be an enlarged and tender left ovary that was evidently the source of the pain complained of. I ordered a mixture of bromide and viburnum, and gave some general hygienic advice.

On October 27, the patient was brought to the hospital evidently suffering from intense pain. She was crying, and stated that she had had no sleep for four nights on account of this. Her temperature was 101° F. On again examining her I found a fixed tender mass to the left of the uterus pushing the latter to the right. This was acutely sensitive to touch, and I believed it to be caused by a distended tube. On closer inquiry into her case I found that there was a distinct history of copious purulent vaginal discharge some three years ago. I altered the diagnosis to one of acute pyo-salpinx, and admitted her into hospital. Operation was done on October 31. I opened the pouch of Douglas through the posterior fornix and evacuated some dirty and rather foul serum from the pelvis. On examination through the opening thus made I found the left tube was dilated into a large pus-sac, having thick walls, and being very adherent. I first tapped this with a trocar and cannula, and afterwards opened up the punctured incision with my fingers. One or two secondary collections of pus were also set free. The cavities were sponged out and packed with iodoform gauze.

The patient, who had been before the operation almost a type of misery, immediately altered. In the morning she was smiling, happy, and good-tempered, and said that she had passed the best night she had had for several weeks. She has made uninterrupted progress, and leaves the hospital to-day.

I do not wish it to be inferred that I regard posterior vaginal cœliotomy as the only operation to be undertaken in pyo-salpinx. When the tumour is large and prominent or "presenting" towards the abdominal aspect, abdominal

section may prove a better means of access to the seat of mischief. Wherever this seat of mischief is most accessible, *there* is, in nine cases out of ten, the best point of attack.

I will not, however, dwell on this part of my subject, but pass on to the consideration of the *limitations to success* in the treatment of gonorrhœal disease, and any means we possess of avoiding them. These may be shortly considered under three heads :—

(1) The severity or complications of the disease preventing recovery.

(2) The carelessness and distaste of the patient for any prolonged treatment.

(3) The effect of adhesions in causing sterility and occasional pain.

(1) The first is undoubtedly the most important. In spite of all that may be done in the future I quite believe that there will remain a residuum of intractable cases, and among these I would particularly point out cases complicated with uterine fibroid or anything which tends to cause or increase uterine hæmorrhage. When bleeding is severe no patient or medical attendant will continue a course of treatment which is not immediately directed to the stopping of the hæmorrhage. In addition to this, both mercury and iodides in some people appear to increase the tendency to bleeding. In all of these cases I recommend vaginal hysterectomy, with or without removal of the appendages. It is not only the most rational operation in theory, but is productive of the best final results when conservative surgery is hopeless.

(2) The carelessness and distaste of the patient for treatment will often be an annoying feature and source of failure, as it is so often in syphilis. In some cases the biniodide mixture causes nausea, and even vomiting. When this is the case smaller doses may be tried, or recourse may be had to a method of treatment which is occasionally very useful. Only one dose of iodide is given in the day, but

this is a large one—from 15 to 20, 30 or 40 grains. This is taken the last thing at night before going to sleep. Every other night, or every night if necessary, a Plummer's pill (pil. hyd. subchlor. co.) is taken at the same time. The patient keeps all her medicine in her bedroom, and only needs to remember it on retiring to rest.

(3) The effect of adhesions as a limitation to full recovery is a more important matter. Occlusion of tubes and peri-tubal adhesions, consequent on gonorrhœal salpingitis, do not partake themselves of any specific character and must be regarded rather as secondary mechanical results of the inflammation which has been caused by the pelvic gonorrhœa, differing in no essential from peritoneal adhesions elsewhere, such as those caused by injury, by appendicitis, or by gall-stones.

Their absorption and disappearance will not, therefore, be secured by the cure of the gonorrhœa. The cure of the gonorrhœa will be the necessary preliminary, but the actual disappearance of adhesions will probably depend on the perfection of the general health and the power of relative mobility enjoyed by the adhering organs.

As a necessary consequence it will, I believe, be found that sterility will still result or persist when the appendages of both sides have been attacked by disease before any treatment has been begun. But if energetic treatment is started when only one side is affected and the opposite tube is healthy, one may reasonably hope that the healthy tube will remain healthy and the patient retain her fertility. Such is the explanation, I believe, in both of the cases I reported at the beginning of my paper, in which conception took place at a period subsequent to the salpingitis, while in the acute case of pelvic gonorrhœa, notwithstanding the comparatively short duration of her illness, both sides have suffered and future fertility is hardly to be expected. I shall be interested to watch this case and see if my forecast is justified.

For similar reasons a remainder of occasional and slight

pain may be rather frequently expected in the most favourables cases—such a sequel as is often met with after an ovariotomy from adhesions to the stump. This depends mainly, I believe, on the involvement of intestine or omentum in attachments.

If these escape, the patient has no pain—if they are involved, the patient may have occasional discomfort and sometimes acute, if transient, colic.

The consideration of this subject would not be complete without some reference to prophylaxis, and to the treatment of acute and chronic gonorrhœal vaginitis. In the acuter forms of gonorrhœal salpingitis when specific vaginitis and endometritis are also present, and in gonorrhœal vaginitis when it may still be possible to limit the upward spread of the disease, local treatment is of very great and indeed of primary importance.

As regards the gonococcus, the strongest and best local germicides known (according to Neisser) are the nitrate of silver, the perchloride of mercury and ichthyol, and it is on one or more of these that chief reliance should be placed.

In all cases of acute gonorrhœal salpingitis in which the uterus and vagina are also affected, I use a vaginal suppository of ichthyol (10 per cent.) every night and a douche of crude acetic acid during the day. In cases of complicated gonorrhœal vaginitis, especially in hospital practice, I generally use a vaginal suppository of silver nitrate (gr. $\frac{1}{4}$) every night, and the same vaginal douche of pyroligneous acid (℥ss. ad Oj) twice during the day.

If, as only very rarely happens, the patient comes almost immediately after exposure to contagion, it may be advisable to disinfect the vulva, vagina, and cervix manually, as in a vaginal cœliotomy.

In one case of vaginitis of about two days' duration, in which the patient was already feeling considerable and rapidly increasing discomfort, but in which, it is only fair to say, the gonorrhœal origin was never thoroughly estab-

lished, I did this with the very best result. The disinfection was repeated three times, and the patient was directly cured with no relapse.

In cases where there is no evidence of endometritis or tubal disease the local treatment advised contains all that is required, and this should be applied in the simplest possible manner. No unnecessary examination should be made, and the use of the sound should be forbidden as most dangerous.

It is only in cases of tubal disease, where the appendages are evidently affected by gonorrhœal inflammation, in gonorrhœal rheumatism or arthritis, in gonorrhœal endocarditis, and in persistent and incurable discharges due to gonorrhœa, that the local treatment must be supplemented by the administration of mercury and iodides, as described in the earlier sections of my paper.

To emphasise and make ready for discussion the main points contained in this communication, I have prepared a short abstract, or *précis*, of the propositions I am disposed to maintain, and on which I invite the criticism of my colleagues.

First.—That a large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhœa. That these undoubtedly show marked improvement after a prolonged course of mercury and iodides, and in the course of this treatment, unless acute pyo-salpinx intervenes (in which medicine is useless), it is the rule rather than the exception for all gross physical signs of disease to slowly and permanently disappear.

Secondly.—That many cases in which there is no history of syphilis, including cases in which there is the unmistakable history of gonorrhœa, pure and simple, as the sole cause and starting-point of tubal disease, do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyo-salpinx and its dangerous complications.

Thirdly.—That acute pyo-salpinx is peculiarly liable to occur in the first place on the left side of the body, and its special severity is probably due to secondary infection from the rectum. That cases of pyo-salpinx, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus-cavities from the pouch of Douglas, and by iodoform gauze drainage. That this is far preferable to the older operation of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fæcal fistula, an operation sequel sometimes worse than death itself.

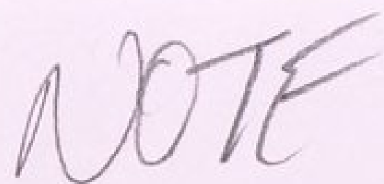
Fourthly.—That such cases of mixed infection and acute suppuration treated by operative evacuation of the pus, with or without removal of the appendages, do sometimes not only recover but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases, recovery is not so complete or relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed.

Fifthly.—That occlusion of the tubes and peritubal adhesions consequent on gonorrhœal adhesions have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis which has been caused by salpingitis.

Their absorption and disappearance will not therefore be necessarily secured by the cure of the gonorrhœa, and sterility may persist although gonorrhœa is entirely eradicated from the system.

Sixthly.—That in gonorrhœa of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. That in these cases operative removal of the organs affected will still be required, and

that vaginal hysterectomy whenever possible, with or without extirpation of the uterine appendages, is not only the most rational operation in theory, but is productive of the best final results.



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