whether it was a case of ovariotomy or the so-called "oöphorectomy." The result has been, as I shall state at length in another chapter, that I have completely discarded the use of this latter term, because, unless some kind of conventional distinction is made, it will be perfectly impossible to classify our cases in any logical manner, or for any useful purpose.

These small cystic ovaries very often give rise to extremely severe hemorrhage, even when there is no myoma present, and when there is no suspicion of any chronic inflammation of the glands. The size of the ovaries is not great enough to justify us in calling them ovarian tumors, and it is highly probable they are nothing more than follicular hypertrophies. Of this peculiar condition I propose here to give in detail three instances.

In June, 1880, I was called by Dr. Collis, of Bridgenorth, to see with him, in consultation, a lady of very eminent social position, on account of persistent metrorrhagia. She was twenty-nine years of age. She had been married six years, and before that had suffered always more or less from a white discharge and irregular and profuse menstruation. Nine months after marriage she was confined of a still-born child, and nearly lost her life from hemorrhage. Two years after she had another child, living, and in the following year another child, both labors being characterized by unusual hemorrhage. In 1878 she had a miscarriage, and was alarmingly ill from hemorrhage. In August, 1879, a third child was born, about six weeks before the full time, when again the hemorrhage was extreme.

Dr. Collis has favored me with the following notes of the progress of this most interesting case: He saw her first on May 31, 1880, when he was informed that, up to a fortnight before his visit, she had missed three menstrual periods, but that during the fortnight there had been a continuous flow. Neither she nor her husband thought it possible that she was pregnant. They regarded it as her usual profuse and protracted menstruation; but on examination Dr. Collis found the uterus enlarged. He kept her in bed and gave her astringents, and afterward ergot and bromide of potash. Finally he had to plug the vagina, and then he telegraphed for me to see her with him. I saw her on the evening of June 13th, and found the patient very anæmic, and the uterus enlarged as if by a pregnancy of the third month. The cervix being closed, it was clear that we must dilate, and for that purpose I introduced my instruments, which act by continuous elastic pressure. In a few hours dilatation had proceeded so far that, after placing the patient under ether, I was able to empty the uterus of a large quantity of clot and some villous cysts. These, I presume, were remains of a chorion of which the villi had undergone cystic dilatation, but nothing in the shape of membranous or placental structure could be discovered. Recognizing the urgent necessity of there being no more hemorrhage, I took great pains to remove everything from the uterus, and I scraped the whole of the inner surface over with a curette. She had no further loss, and made a good recovery till July 10th, when her period came on very profusely, lasted ten days, and left her very anæmic and exhausted. During the whole time she took large doses of bromide of potash and ergot, but with no apparent effect. Hemorrhage again occurred on July 29th, by which time she had been removed to Malvern, where she was under the care of Drs. Pike and Weir. The hemorrhage was extreme, and everything was tried, including hypodermic injections of ergotin, without any avail. I was sent for on August 3d, and found the patient in the very last stage of anæmic exhaustion. I removed a plug which had been placed in the vagina, found the uterus perfectly small and normal, explored it with the alligator-forceps, but found nothing in it, and then I applied solid nitrate of silver freely to the inside. This stopped the hemorrhage for about twenty hours, but after that it came on, and I was sent for again on the 6th. At my visit on the 3d I had informed the husband that, if the nitrate of silver did not check the hemorrhage, I knew nothing short of a surgical operation which would, but said nothing to him as to the nature of the operation I intended to perform. When telegraphed for on the 6th, I replied that I should bring my assistant and everything prepared to operate if it was thought desirable, and for this purpose my friend, Dr. J. W. Taylor, accompanied me to Malvern, in the absence of Mr. Raffles Harmar.

When I reached the house I met the husband, a man of distinguished position and great intelligence, at the door. He greeted me with the remark that he did not know what I proposed to do, that he left it entirely to me, but that he was perfectly sure the only thing which would give either temporary or permanent relief would be removal of the appendages. As this was exactly my own notion, and was readily agreed to by my colleagues in the case, I at once proceeded to carry it out, my only fear being that we had delayed it too long. She was blanched beyond my powers of language to describe, and she had those swollen, waxy lips which are rarely restored to their original condition. There was no difficulty in the operation, and both ovaries were found to be cystic, and about the size of Mandarin oranges. The uterus was perfectly normal in size and consistence when I had it between my fingers. The incision was only

two and one-half inches long, and its bleeding points were indicated by a flow of serum almost devoid of color. For about an hour after the operation I gave up almost all hope of her recovery. Dr. Pike and I were in almost constant attendance upon her for five days, during which she had some ups and downs, but finally she got right, and has never lost a drop of blood since. She has had the usual flushes and other slight indications of the climacteric, but these are wearing off; and in the last letter I have had from her husband, a few days ago, is the sentence: "It only remains for me to express our united gratitude for your skill and attention; for, humanly speaking, I shall always look upon you as her saviour."

Putting aside, as far as possible, all personal gratification at such an expression, I desire only to put in this evidence given by a highly educated layman, fully conversant with his wife's condition and what was done for her, in favor of an operation upon which only those who have not successfully tried it are endeavoring to cast obloquy. The only credit in this case I desire to assume is, that I had the courage of my convictions, and that I proceeded, as a last resource, to a step which, if I had regard to metropolitan opinions, I should not have attempted. Had the case been unsuccessful, the position of the patient was such that the proceeding would have been widely, and I fear adversely, criticised.

Looking at the ovaries of this case, I notice that there is little, if any real ovarian tissue left. There is hardly anything but the thin walls of a number of dilated follicles, from which it is very difficult to believe that a healthy ovum could be sent into the tube. This naturally raises the question as to whether the imperfect ovulation, which was the first cause of my being sent for to her, was the result of this follicular hypertrophy. I think it very likely that it was so. The condition seen in these ovaries must, I think, be something special, and not merely the early stage of cystoma, for I never hear such a terrible story of hemorrhage from the lips of a patient in whom an ordinary cystoma has grown, as I have to narrate about the three cases in whom I found these small cystic ovaries, and from whom I removed them with perfect success.

The second case was in some respects more remarkable than the first, though it is not necessary to occupy so much space with its detail. She was thirty-nine years of age, had been married at fourteen years of age, and was confined of her first child before she was sixteen, her second at seventeen; eight

months after she had a miscarriage, and then for the next ten years had a baby every year. At each confinement the hemorrhage was very great, and two or three times she was supposed to be dying from this cause. As she had had no menstruation for twelve years, being either always pregnant or suckling, she could tell nothing about this matter until she became a widow at twenty-eight. She married again about four years ago, and during her widowhood her menstruation had been far too frequent and too profuse, and she had been almost constantly in the doctor's hands on that account. Since her recent marriage she has had eight miscarriages in forty months, the first being at seven months and the others between four and five. She was admitted into the hospital in February last, when pregnant at the third month. She was put upon chlorate of potash and biniodide of mercury, in order to avoid the repetition of the miscarriage, and she took every precaution to assist us in this, for both she and her husband were very anxious for a living child. In spite of everything, however, she miscarried at the fifth month, and as nearly as possible died from the hemorrhage. During May, June, and July she had most profuse menstruation, though active treatment was employed, and when admitted into hospital again she was a completely broken-down anæmic woman, whose desire was to die if nothing more could be done for her. In this case it did not occur to me to remove the appendages, and that proposal originated with my colleague, Dr. Hickinbotham, at the consultation held on the case. I am bound to say I did not regard the idea with favor at first, and it was only after prolonged discussion with my colleagues, and finally at the earnest and frequently repeated request of the patient herself, that I undertook it. This request was based on her knowledge derived from a patient in the same ward who was recovering from the operation. Here again the ovaries were cystic, just as in the first case, the cysts being small and thin-walled, but occupying the whole of the ovary. We may again ask, Did they account for the repeated incomplete ovulation, as well as the hemorrhage? Such a question needs a much wider experience for its solution. Whatever be the explanation, the result is brilliant, for the woman made a speedy recovery, and now, not yet twelve months since the operation, is in robust health—such health, in fact, as she has never known before.

The third case was sent to me by Dr. Meredith, of Wellington, in Somersetshire, and I give the history in his own words:

"In May, 1877, I had to attend a young woman, aged twenty,

on account of excessive menstrual discharge, which had been going on for some weeks.

"The previous history of the case was briefly this: The patient, as a girl, had always been considered delicate up to the menstrual period—which, with her, began when she was fifteen—although she was well-formed and tall. Once the courses became established, she began to gain strength and fatten. The catamenia were regular, but scanty, only about three diapers at a period; still she felt well, and gave this no particular thought. Her parents are healthy, and so are her brothers and sisters. One day in March of the year mentioned (1877), while menstruating, she assisted in lifting a book-case. She felt the effort affecting her, and the discharge, instead of terminating at the expected time, went on day after day.

"When I saw her she was in an exhausted condition from the loss, and suffering pain, etc., in the lower part of the abdomen, indicating the presence of a certain amount of local inflammatory action. After the administration of opiates this condition of irritability subsided, and after a while I obtained permission to make a digital examination of the vagina and cervix uteri.

"The information I got from this was that there was no appreciable difficulty in introducing the finger; the os uteri was patulous, with a blood-clot in it, and the cervix elongated. There was nothing special to note in regard to the condition of the uterus—no marked version or flexion. Now, a very natural question suggested itself, and I have no doubt it arises at once in your minds, namely, Was not the case one of miscarriage? A question which I put to the patient some time afterward, bearing on this, was met by a negative answer—just what I might have expected. But my duty was to arrest the hemorrhage and bring about recovery, if I could. To this end I administered ergot, acids, bromide of potassium, chlorate of potash, digitalis, and cannabis indica. The last-named three, in combination, seemed to answer well for a while, then there would be a relapse. Cloths dipped in vinegar and water were applied over the vulva and lower part of the abdomen; cold water, vinegar and water, and carbolic acid solution were at intervals injected into the vagina, and, of course, absolute rest in bed was enjoined, with everything cold in the way of food and drink.

"In spite of everything, the discharge continued more or less until July. At times there would be nothing but a pink, sanguineous staining on the cloth. The patient soon learned to dislike this appearance, as she had always a great deal of backache with it, from which she was only relieved after the expulsion of blood-clots. The explanation of this, I take it, was that the clot

formed in the os uteri, and, owing to the flow not being enough at times to carry itself off as a whole, the fibrin separated at the uterine outlet and in the uterus as well, staying there gathering in volume, while the liquor sanguinis escaped, and produced the stains mentioned. The fibrinous part, in thickening, rested upon the walls of the os, distending it, and, as in labor or any other form of tension at the os uteri, the discomfort was referred to the sacral region—the region of backache with many women. After going on in this way for a time, I decided to apply pure carbolic acid to the interior of the uterus. I did this in the usual way, by means of a piece of cotton-wool wrapped around an ordinary uterine sound. The result was satisfactory for the time; the discharge stopped for five months, the patient recovered strength, and was able again to go about and enjoy herself.

"In the beginning of 1878 the menses reappeared, but nothing much to complain of at first; then the loss assumed a more persistent character. Drugs seemed to have very little influence now, nor had the intra-uterine application of carbolic acid the same arresting influence as at first; still it exercised a certain amount of staying power. Thus matters went on unsatisfactorily to all concerned. Toward the end of 1878 the loss was not very great, still it recurred at short intervals; but on Christmas eve she got excited with some of her friends, and then it came on profusely. There was always tenderness over the ovaries, at times more over one than the other, and, of course, the usual sympathetic tenderness along the spine.

"Finding that I was unable to afford the relief I wished, I urged the patient to go to the Women's Hospital at Birmingham, to be under the care of Mr. Lawson Tait, with whom I had had some correspondence regarding the case. Accordingly, on January 15th she went thither. She was thin, weak, and anæmic at the time. A few days afterward I had a note from Mr. Tait, saying that he had dilated the uterus and thoroughly explored it, and could find nothing amiss with it, only that the fundus was a little enlarged, nothing more.

"A few days after admission, nitrate of silver was applied to the cavity of the womb, and repeated three times between that and February 15th. On the 19th the loss ceased, and no further application was made. The patient had mixtures given her, consisting of ergot, bromide of potassium or chlorate of potash, and, after the cessation of the discharge, dialyzed iron.

"She left the hospital, apparently recovered, on March 1st, and went to a convalescent home, where she stayed for some time and was much improved. In due course she returned home to Wellington. On the night of her return the discharge began again.

"I knew nothing of her return, or of the recurrence of the discharge, until she had been at home for some weeks. During the interval she tried the effects of medicines which some neighbors procured for her—getting into a sort of desperation-state, which we can all pardon under the circumstances. I now tried the effects of cold water hip-baths, and with some apparent good results. Mustard poultices over the ovaries were followed by no marked benefit. Swabbing the interior of the uterus produced some relief. After a time I introduced a piece of nitrate of silver into the cavity of the uterus, and left it there. This altered the character of the discharge; but, in spite of all, the loss persisted. I frequently left her alone, desiring her to keep still and take no medicines at all; the result was the same—always losing.

"On July 9th last I gave her a hypodermic injection of ergotine, which was followed by a stoppage of the discharge for about three weeks. On August 5th I again sent her to the Women's Hospital at Birmingham, under the care of Mr. Tait. At the time the patient was anæmic, thin, and weak, and hardly able to stand."

I re-admitted the patient in August, 1879, and removed both ovaries on the 8th of that month. The ovaries were large and flabby, and occupied by a number of distended follicles forming cysts. They were also chronically inflamed, for there was evidence of old lymph here and there on their surfaces, and they were somewhat adherent. The patient went home in a few weeks after the operation, and speedily gained health and strength. She has never menstruated since, and enjoys perfect health (May, 1882).

From these cases I am forced to conclude that between these small cystic ovaries and uncontrollable hemorrhage there is some connection which has yet to be studied, and that in such cases the removal of the ovaries is not only to be justified, but that it is the proper proceeding, the results of these cases having been brilliantly successful.

Besides this follicular hypertrophy, there is a distinct form of fibrous hyperplasia which is probably the result of that form of chronic ovaritis which attacks the fibrous element, and results in follicular destruction or arrest of development of the proper ovarian cells, and produces an excess of the trabecular structure. It is, in fact, the process of cirrhosis in its second stage, previous to the contraction. The following is a case which I have had the opportunity of watching for many years, and now seems to be verging toward the cirrhotic condition. Both the patient and I are agreed that if I could have done for her ten years ago what I could do now, if it were as necessary, she would elect to have her ovaries removed rather than pass through the prolonged invalidism to which she has been subjected. She belongs to the upper ranks of life, and therefore has had every opportunity of recovering, and no money has been spared to secure her good health; yet she has been an invalid for about twelve years, and is so yet, though enjoying better health than she did three years ago. It would have been cheaper for her, and better in every way, to have had her ovaries removed ten years ago.

She is now about thirty-eight years of age, is a pretty, delicate blonde of nervous temperament and most refined cast of features, and has been married about eight years. She has a history of hyperæmia of the ovaries at an early age, and has had always very profuse, and generally irregular, menstruation until within the last three or four years, when it has been scantier and less frequent. From November, 1871, until she came under my care, she had had only one normal period (in seven months), and another in April, 1872. From the former date a constant, offensive, brown discharge had been present, which was increased by exertion. She had pain and straining after coitus, pain on defecation, loss of appetite, and frequent sickness. Examination revealed a condition of enlargement and tenderness of the uterus, openness of the cervix, and decided retroflexion of the fundus, with a tendency to retroversion of the whole organ. The cavity was not larger than normal, but the passage of the sound gave great pain. The displacement was easily reduced, and then it was found that both ovaries were very much enlarged and tender, the left especially. They could both be distinguished by bimanual touch as quite free from adhesion, readily moving about. I introduced a ring-pessary to rectify the displacement, much to her comfort, and directed the use of iodine-paint in the manner previously described. She also took a tonic mixture consisting of cinchona and angostura, and the uterine cavity was occasionally washed out with a weak solution of neutral acetate of lead. The latter part of the treatment was discontinued after a few months, but the counter-irritation and the pessary were persevered in, along with occasional recourse to tonics. In October, 1875, the brown discharge had almost disappeared, and the right ovary could be felt to have distinctly diminished in size. The uterus was also straight and the cervix closed, and the whole organ of a much less size. Early in November there was a slight menstruation lasting three days, and in January of this year there occurred quite a normal period of four days, followed by rather profuse leucorrhœa. In February, as the expected period did not occur, I ordered her small doses of

iron, in the form of ten drops of Parrish's syrup of the phosphates, taken thrice daily.

For the last five years the treatment has been varied, both by myself and others, but nothing seemed to have any very marked effect, unless it be residence at Kreuznach and the prolonged use of the waters. Nature seems to be working her own cure, and the only question to be discussed is: Would it not be better, in such a case as this, to run a slight risk in the removal of the ovaries, and so effect a speedy and permanent cure? I think it would, and so does my patient.

There is probably a chronic ovaritis of occasional occurrence in chronic phthisis; for, though the rule in that disease is to have ovarian atrophy, evinced first in dysmenorrhœa and finally in amenorrhœa, yet I have seen a few cases where the menstruation was profuse, irregular, and characterized by the other symptoms of chronic ovaritis. I have seen such conditions temporarily after small-pox, and frequently after scarlet fever in adolescent women. One case I have also satisfied myself of in early acquired syphilis. There is a distinct form of syphilitic metritis, as pointed out long ago by Mr. Langston Parker, and no doubt in these cases the ovaries are involved.

Arthur Farre has noticed an intense red coloring of the ovaries in cardiac disease, and I have more than once found that intractable menorrhagia had apparently its origin in valvular disease of the heart, or at least was closely associated with it, in such cases there being often no discoverable lesion of either uterus or ovaries.

I have met with a small group of cases which I can only class under the head of ovarian neuralgia. They have been characterized by acute lancinating pain referred to the region of the ovaries, generally on both sides, coming on paroxysmally, without any reference to the uterine or ovarian functions. No physical signs of disease have been found in these cases, and they have all occurred in women approaching the menopause. They have all been addicted to outbursts of over-indulgence in drink, taken, as they allege, to deaden the pain. Whether this inebriety was a cause or a result of the neuralgia, or whether the neuralgia in some of the cases may have had any actual existence, I am unable to say; though the special character of the pain and its site have been described by the sufferers with a constancy which would seem to vouch for its reality. In connection with this affection I would here urge the necessity for the medical profession combating strongly against the wrong women are often allowed to do themselves by taking spirits to relieve ovarian and menstrual pain. No habit can be more pernicious, or more likely to lead to the most deadly mischief, both physical and moral.

A singular condition has been noticed by Dr. Priestley, of intermenstrual pain, occurring about midway between the periods, which is almost certainly due to an ovarian condition, though it is not clear of what kind. Since reading his paper I have seen several cases, but have been unable to refer them to any category.

Abscess of the ovary is a condition of extreme rarity, or, at least, it certainly is one which we can rarely diagnose during life, and in the majority of instances probably death occurs from the rupture of the abscess into the peritoneum, without any diagnosis having been made beyond that comprised in the generic term of an attack of "inflammation of the bowels," under which category a large number of cases are entered in the death register, many of which probably might have been relieved if a more accurate diagnosis had been possible. Of the cases of abscesses of the ovary which recover after rupture we of course only find subsequent traces in the indications of old perimetritis which are usual after a great many other lesions as well as this. Probably, however, the larger number of cases which have been published as abscesses of the ovary are nothing more than suppuration in ovarian cysts, and therefore belong to an altogether different category from those of which I am now speaking.

True abscess of the ovary is said to occur most frequently in connection with pelvic suppuration of the puerperal woman, and possibly this may be a condition of pretty frequent occurrence. I have, however, for many years past, carefully avoided attending post-mortem examinations of such cases, and therefore I have seen no instance of this kind. The only cases of abscess of the ovary, in clinical experience, of which I have been certain, are two, one of which I have already narrated under the head of pyosalpinx; and the second is one of great interest because it also shows what immense success has been recently made possible by the advances of abdominal surgery.

The patient was sent to me by Dr. Lycett, of Wolverhampton, and I cannot do better than give the history of the case, which he sent to me in a letter, as being quite a model of what such communications should be. It was as follows:

"She is about thirty-eight years of age, and has suffered for many years from great ovarian pains, rarely free, and much increased at the menstrual period, which are often fortnightly, scanty, and prolonged for a week or ten days. The left ovary seems the one at fault, being tender and somewhat enlarged; the uterus is rather conical, but the passage fairly patent. She

has had a variety of treatment under my hands, and, though able to afford some relief, yet I see no prospect of permanent good, so that at last I am desirous of your opinion as to oöphorectomy, for her health has materially suffered, as you will observe. She is a weakly, nervous, anæmic person, whose life is a misery, and may probably break down before the menopause. She has not had any children. Several times at the periods her temperature has risen to even 102°, marking some local inflammation, and at these times the pain and tenderness is greater."

No history could be more graphic, concise, and complete. The only additions I can make to it are that marital life was absolutely unendurable, and that I found the left ovary adherent in the cul-de-sac.

I quite concurred with Dr. Lycett's views, and with his concurrence and assistance I performed ovariotomy on June 28th. I found the left ovary firmly adherent in front of the rectum, and to pull it off from its attachment was a work of difficulty. It contained about two drachms of pus, and appeared to be just on the point of bursting into the peritoneal cavity. Had it so burst, she doubtless would have had an attack of acute peritonitis, from which she might have died. The right ovary was shrivelled, so I removed that also. She made a perfect recovery, and not only is cured, but her sexual relations are now possible, so that not only has removal of the ovaries not unsexed her, but it positively has resexed her—a statement which I have made about a number of other cases of a somewhat similar kind.

Two cases of abscess in both ovaries, narrated by Mr. C. J. Cullingworth, in the *Lancet* of November 3, 1877, illustrate well this unusual disease, and are equally instructive in showing the disastrous results of delay in the performance of abdominal section in cases of doubt, where patients are suffering from pelvic mischief.

The first was a case of a woman, aged forty-five, admitted on January 13th, with vomiting, severe pain in and enlargement of the abdomen. In the lower part of the abdomen was a fluctuating swelling, reaching nearly as high as the umbilicus, quite dull on percussion, and a soft, rounded swelling in the vagina, to the right of the uterus. The morning temperature was low and the night temperature high, showing clearly the presence of pus, as did all the symptoms.

"January 27th.—Thirty-five ounces of pus were withdrawn by the aspirator, without relief.

"February 7th.—An exploratory incision was made, and a large abscess opened in the abdominal walls, outside the peritoneum, with a communication into the abdominal cavity. The patient died a few hours after the operation, and the post-mortem displayed that the source of the mischief was an abscess in the right ovary, which had burst. The left ovary also had become converted into a small bag of purulent fluid." The case seems to have had a very chronic progress, and if the abdominal section had been done some weeks before it was, there probably would have been a successful result.

The second case is an even more instructive one. About the middle of 1875 she noticed an enlargement of the abdomen, and was suffering from local distress. In June, 1876, this amounted to constant pain in the left iliac region, where there was a distinct, hard swelling, tender on pressure. The uterus was quite hard, the vagina was encroached upon, and its upper part exquisitely tender to the slightest touch, causing great suffering. An exploratory puncture was made without result, and after some months' residence in the hospital she was discharged on March 31, 1877.

She was readmitted in May following, with the symptoms much aggravated, the abdomen uniformly enlarged and universally tender, and the old, tender swelling could still be felt. The night temperature was always considerably higher than that of the morning. She was kept under observation till August 3d, when she died.

The post-mortem examination revealed old peritonitis. The right ovary was four and three-fourths inches in its large circumference, and three and one-fourth in its shorter, and was a mere shell, filled with offensive, purulent fluid. The left ovary was much larger, and formed the large tumor which was felt during life, and this again was filled with a highly offensive, purulent fluid.

In such a case as this it is impossible to resist the conclusion that abdominal section, performed soon after the onset of the serious symptoms, would have enabled the surgeon to have relieved his patient.

M. C. Darolles contributes some valuable observations concerning the microscopic examination of ovaries, in which ovaritis had resulted in the formation of abscess. He found that the process began in the suppuration of separate follicles, and that these subsequently coalesced, forming abscess of the whole gland. Such cases, he points out, as well as those of suppurative inflammation of the tubes, frequently result in a series of secondary