

ARTICLE II.

REMOVAL OF UTERINE APPENDAGES FOR THE ARREST OF UTERINE HEMORRHAGE. BY LAWSON TAIT, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women, etc., Birmingham, England.

It is to be expected that any new proposal in surgery will meet with a keener and more careful scrutiny the more exact our professional methods of argument become, and it is right that every method of testing new proceedings should be employed, and most of all the statistical method. The introduction of this is of very recent date, and had it been employed earlier, there are many operations, still in occasional use, which would long since have received complete professional condemnation.

No operation had so hard a battle to fight as ovariectomy, and it certainly would not yet have received complete acceptance but for the application to it of a careful statistical method by Mr. Spencer Wells. The greatest difficulty with it arose chiefly from sentiment, due to the facts that its objects were women, and that its relations were purely sexual. It was only when it was finally shown that its results could be compared favourably with those of every other major operation in surgery that the opposition was broken down.

The successful removal of ovarian tumours of necessity led to further efforts in abdominal surgery, and recent publications have shown that immense advances are yet possible in this department, but if these advances are to be made, those who are venturesome enough to make the first efforts must have something like fair play, and their results must be heard and carefully weighed before their work is condemned. I now desire to lay my experience upon one particular departure of a new kind in complete detail before the profession in order that I may obtain from their decision a guide for the future for myself and others. I must apologize for the prolixity of my communication by saying, that each case must be given more fully in detail than would be required if the operations I have to describe were already ranked amongst the accepted proceedings of surgery. I may save some repetition, however, by stating, that, after very protracted trials of all the drugs which have to my knowledge been used for the arrest of uterine hemorrhage, I have come to the conclusion that all are absolutely without effect save ergot and two salts of potash, the chlorate and the bromide. These, however, are by no means uniformly successful, and they do not often give permanent relief. In all of the cases I am about to relate these drugs had been fully and ineffectually used either by others or by myself before the question of any operation was discussed, and I do not think it worth while in any case to give in detail the infinite varieties of drug treatment which these patients were otherwise subjected to.

The cases are thirty-one in number, and in four of them the operations

had fatal results, and they include every case where I have operated for hemorrhage. In the cases which have recovered from the operations, that is those in which there was primary success, the secondary results have been somewhat various, but only in one have they been unsatisfactory, and the explanation of this is that I operated for hemorrhage due probably to malignant disease, a mistake sure to occur occasionally in the most experienced hands. Even in this case, however, I procured the patient three months of relief from the hemorrhage.

I have entitled my paper "On Removal of the Uterine Appendages," because my experience seems to me to point very clearly to the conclusion that mere removal of the ovaries is not a certain method of arresting menstruation, whilst removal of the tubes as well as the ovaries seems to be so. This latter point, however, is one requiring further evidence, though I think we may fully accept the other part of my statement.

CASE I.—E. R., aged 41, the mother of four children, consulted me in June, 1873, on account of profuse menorrhagia, which had been in existence for fourteen months, was becoming rapidly more serious, and had reduced her to a condition of marked anæmia. On examination, I found that the uterus was normal in size and pushed over to the left side, but that it was associated with a tumour about the size of a cocoa-nut, which was evidently cystic, and, from its attachment to the uterus, was probably ovarian. I placed her upon a treatment consisting of large doses, fifteen grains, of bromide of potassium, with ergotin, one grain, in order to check the hemorrhage. For this purpose, I also applied astringent and caustic applications to the interior of the uterus, but all to no effect. The menorrhagia continued quite as profuse till September; and then, as it became perfectly evident that something more must be done, I resolved to remove the tumour. This I did on September 9, 1873. I made the usual median incision, and, when the tumour was displayed, I found that it was an ovarian cyst on the right side, with no very well-defined pedicle, and with a number of very large sinuses in its walls. I tapped it, and removed it from the pelvis, drawing it well out, and then I applied a circular clamp as close to the uterus as I could. A small mass of secondary cysts was pulled above the clamp with great difficulty, and the clamp was fastened really round a part of the cyst. The patient did remarkably well after the operation. On the seventh day, the clamp began to separate, and then it became evident that the part of the cyst cavity which remained was suppurating, and it discharged large quantities of pus. On the twelfth day, the clamp came off. For about a month after the operation, the cavity discharged freely, but then the opening began to close, and the patient suffered much pain. I, therefore, passed a double drainage tube through the cavity, and left it there about six weeks. I then removed it, and the whole track closed in a few days, and the patient remains to this day permanently well. Ever since the operation, her menstruation has been perfectly regular, and normal in quantity, and now (April, 1881) she is in robust health.

The only explanation of this curious case upon which I can venture is, that the metrorrhagia must have been due to the large venous sinuses which I found in the tumour. One or more of these probably ran through

the corner of the uterus, and thus contributed a supply of blood larger than usual. That the removal of the tumour, leading to the destruction of these sinuses, cured the metrorrhagia, strongly supports my hypothesis.

CASE II.—Of the first case in which I removed *both* ovaries on account of uterine hemorrhage I can, unfortunately, give only a brief outline from memory, as the notes of the case have been lost, and I have nothing left save the record of the operation, which was performed on May 22, 1873. The patient, E. C., aged 40, was placed under my care by Mr. Giles, of Stourbridge, with a myoma about the size of a child's head, and from which she had for a long time had profuse monthly hemorrhages. I removed both ovaries, tying the pedicles, and the patient made an easy and rapid recovery. Menstruation did not occur after the operation, and the last I heard of the patient was that she was living in Cheltenham, in 1876, in robust health.

CASE III.—E. T., aged 41, single, was sent to me by Dr. Raper, in April, 1873, an account of extreme anæmia, the result of profuse menorrhagia. She presented an appearance as if every drop of blood had left her face. She had noticed a lump in the lower part of the abdomen for some months, and during her menstrual periods this lump was the seat of severe pain. When examined, this was found to be a tumour reaching almost up to the umbilicus, free, movable from above, soft but not fluctuating, and attached undoubtedly to the uterus. This organ was high up, and somewhat behind, the tumour, and to the right side.

The nature of the tumour was not clear, but I placed in my note-book an alternative diagnosis of a soft pedicellated uterine myoma, or an ovarian cyst with thick contents. I determined to remove the tumour.

On May 22d she was placed under the influence of methylene ether by Dr. Raper, and I was further assisted by Dr. James R. Chadwick, of Boston, U. S. A., and Mr. W. J. Foster. I made an incision four inches in length, and displayed a tumour of bright, pearly lustre, but having a curious purple hue, such as I had not previously seen. To the touch, it had a most singularly heavy and doughy feeling, and, when punctured by the trocar, nothing passed through the tube. I, therefore, made an incision into the cyst, and squeezed out a quantity of dark purple stuff of a putty-like consistence. I was thus able to draw the tumour out through the wound, and, finding that it had a well-marked pedicle, I secured it by a clamp, and finished the operation in the usual way. The other ovary was perfectly healthy, as was also the uterus.

The patient recovered from the operation without any trouble, and has since remained quite well, though she has never menstruated, and has suffered from the usual climacteric distress. When I came to examine the cyst and its contents, I found that the latter consisted entirely of inspissated blood, and the source of that blood was evidently a large ulcerating surface, which existed on the inner wall of the cyst. I think it very likely that the cyst originally contained the ordinary albuminous fluid found in such cavities; but that when this ulceration occurred, the walls of the Graafian capillaries gave way, especially, perhaps, at the menstrual periods, and hemorrhage into the cyst occurred. In the intermenstrual period, it is likely that absorption of the liquor sanguinis occurred, and thus the peculiar putty-like contents of the cyst were manufactured. This, of course, does not explain the occurrence of the uterine hemorrhage; and upon this matter I am unable even to speculate. There can be no doubt that the tumour was directly the cause of the hemorrhage, because

it ceased absolutely upon its removal, but it is impossible to see how hemorrhage into a cyst should involve hemorrhage from the uterus.

CASE IV.—This was a patient of Messrs. Horsfall and Whiteley, of Wakefield, whose ovaries I removed upon the 25th of December, 1873, on account of uncontrollable hemorrhage from a myoma, about the size of the fetal head. The patient was extremely anæmic. I divided the broad ligaments by the cautery, the patient had no efficient nurse and insisted upon getting up to the stool next day, and in the act of defecation, died. No post-mortem was made, but I have little doubt that she died of hemorrhage, for in subsequent cases I have found it wholly impossible to arrest the bleeding securely in such an operation by the cautery, and have satisfied myself that in the ligature alone there is safety.

CASE V.—This was a case operated upon in the Hospital for Women, on March 14, 1874, for hemorrhage from a small myoma. The patient died of septic peritonitis on the fourth day.

Discouraged by the deaths of two out of these three cases, I did not repeat this operation till 1879, and in the mean time tried a variety of operations, as enucleation and hysterotomy, for these cases of bleeding myoma. My results of these proceedings (already published) have, however been so bad, that I have determined to do no more of them, for they appear to me to be wholly unjustifiable. I was encouraged to resume the operation of removing the ovaries by an increasing success in my operations for the removal of ovarian tumours due to the re-introduction of the intraperitoneal method of operating by Dr. Keith, to increased personal experience, and to the arrangement of a more healthy hospital. Since 1879 I have performed this operation twenty-six times with two deaths, or a mortality of 7.7 per cent.

CASE VI.—E. F., aged 21, sent to me in January, 1879, by Dr. Meredith, of Wellington, in Somersetshire, on account of intractable menorrhagia of a very profuse kind. The girl was extremely anæmic, and after each menstruation was greatly exhausted. The history she gave was that the periods began when she was fifteen, and were regular and of normal amount till 1877, when they became excessive. The periods often lasted for nearly three weeks, in fact were nearly continuous. Every kind of drug treatment had failed. On examination I found the uterus nearly normal in size and position, but the ovaries were large and very tender. I fully dilated and explored the uterus on January 20th, but found nothing. I applied solid nitrate of silver all over its interior, and this was repeated at intervals seven times during her residence in the hospital. The other treatment consisted of complete rest in bed and the administration of large doses of bromide of potassium and ergot. She had three periods during her residence with us, and returned to Wellington on March 1st. When at home, however, her condition speedily got worse again, and in spite of Dr. Meredith continuing the treatment, including the intra-uterine applications, she rapidly became worse, and returned to us in August to have the ovaries removed. This decision was arrived at after much correspondence between myself and Dr. Meredith with the full knowledge on the part of the patient and of the friends, as to what it was we proposed, and all its possible consequences, and also after full consultation with my colleagues on the hospital staff.

The operation was performed on August 8, 1879, at the Hospital for Women, in the presence of Dr. Annie Barker, Dr. Agnes McLaren, Dr. Savage, Dr. Adginton, and Mr. Raffles Harmar, my assistant. Ether was given by Dr. Annie E. Clark. A median incision, four inches in extent, was made; the ovaries were found adherent to surrounding structures, were studded with small cysts, and were covered with flakes of recent lymph. A good deal of care had to be exercised in separating them. The tubes were adherent to them, and were removed with them, the pedicles being secured in the way I have described (*Brit. Med. Journal*) under the name of the "Staffordshire Knot." I have used that knot now 161 times, without having in a single instance found it to fail. She recovered from the operation without trouble of any kind, a very slight show occurring on the 16th and 17th. She left the hospital on August 31st. She has never menstruated since, and I exhibited her at a meeting of the Somersetshire branch of the British Medical Association in August, 1880, when she was in perfect health, could walk any distance, and suffered no kind of discomfort, the climacteric symptoms having entirely disappeared. She remains up to the time of writing, twenty-one months after the operation, in perfect health.

Of this case I can only say that all concerned in it are quite satisfied that but for the operation the girl would have lost her life from hemorrhage. Whether the hemorrhage depended upon the cystic condition of the ovaries, upon the perioöphoritis, or upon the inflammation of the tubes, I do not know, but on account of the evidence of other cases I am inclined to attribute it to the cystic disease of the ovaries.

CASE VII.—This case was placed under my care by Dr. Larkin, of Bilston, and was operated upon August 28, 1879, and was then in a condition of the most extreme spanæmia from profuse and protracted menorrhagia due to a large myoma. Within a few hours after the operation she became breathless, and died in thirty hours of suffocation, due to the formation of heart clot. This deposit was found to extend from the point of ligature up to the heart, and to occupy all the chambers. In the publication of the case already made I have expressed my regret at having undertaken the operation under circumstances almost devoid of hope, and I certainly would not repeat the attempt in such a case.

CASE VIII.—This case was under the joint care of Dr. Wellersley Tomkins, of Leamington, and Dr. Crowe, of Worcester. She had had one child, twenty-three years ago, and had suffered from menorrhagia for about ten years. For five years the losses had been profuse. I saw her for the first time in February, 1878, and recognized the presence of a multiple myoma. Treatment by drugs was persevered in till October, 1879, when it became evident that something more certain must be undertaken, and I recommended removal of the ovaries. This was performed on October 18, 1879, in the presence of her attendants, and with the assistance of Mr. Raffles Harmar I removed both ovaries and both tubes. The ovaries were cystic and the tubes so related to them that they had to be removed to get a good pedicle. Dr. Tomkins's report of the progress of the case is that "she progressed without pain or drawback of any kind till fourteen days after the operation when, unfortunately, having been lifted on to the sofa for the purpose of having her bed made, in the absence of her nurse, she incautiously stood up on the cold floor for a few minutes, with the re-

sult of being attacked with severe pain in the left iliac region two hours afterwards, extending down the course of the vein." This turned out to be an attack of phlebitis, which materially protracted her convalescence. Dr. Tomkins wrote, on the 20th of November, "Her condition to-day is eminently satisfactory. She is quite free from pain, eats heartily, and sleeps well, looks cheerful and happy, quite different from the haggard and careworn appearance she has presented for years. The left leg is rapidly regaining its shape and proper proportions." On May 18, 1880, I saw her with Dr. Tomkins at Leamington, and found her in perfect health. She had had no return of menstruation, and suffered only slight inconvenience from her leg, and now she is quite a robust woman.

CASE IX.—This lady was the widow of a very well-known member of our profession, and she was placed under my care by his two sons, who are both widely known in the Midland district, and for every step of the treatment of her case I had their complete sanction and most earnest assistance (Drs. J. H. and E. Tylecote, of London). In December, 1876, I discovered a myoma to be the cause of an intractable menorrhagia, which had entirely destroyed her health and reduced her to a condition of extreme anæmia. We used a great variety of methods of treatment without avail, including a prolonged use of ergotin administered hypodermically; the use of strong astringents and escharotics into the uterus, and finally (in April, 1879) the free division of the cervix. Her age (52) induced us to defer any further step under the hope that the natural process would affect an arrest of the hemorrhage, but it did not; so that in November, 1879, when she was so terribly reduced that all chance of success seemed gone, and so hopeless did the prospect of the climacteric become, that I proposed removal of the ovaries almost against my own conviction. This operation I performed on November 30, 1879. She made a somewhat difficult and tedious recovery. In February, 1880, she had greatly recovered her strength, the hemorrhage having been completely arrested though certain faint indications of menstruation had occurred. In this case the tubes were not interfered with. On the anniversary of her operation, 1880, she wrote to me that she had occasional and only slight shows, but that she was "in perfect health; was leading a very busy life." On May 22, 1880, she wrote, "I am a marvel to myself and others, to find myself again with old friends, and able to do pretty much as others do. It seems as though one was taking a new lease of life." Occasional but very slight menstruations still occur, but she is in perfectly robust health, and the tumours have almost disappeared. A few weeks ago she wrote to me that she was anxious to undertake the charge of an important hospital work in which she had been engaged up to 1875, when her hemorrhage obliged her to give it up.

CASE X.—This was a hospital patient, had been married nine years, and had never been pregnant. Her menstruation had always been regular, but six years ago it began to get excessive, and the amount of loss was steadily increasing. Her periods lasted quite a fortnight, and during the whole time she suffered excessive pain. She had been under the care of a number of doctors, including two well-known gynæcologists, without obtaining any relief. A tumour was observed in Nov. 1878, and until Jan. 1880, she took bromide of potash and ergot almost uninterruptedly, but without benefit; indeed she became rapidly more anæmic. I therefore determined to remove the ovaries, and this I did on Jan. 13, 1880. Both ovaries were cystic, and there was no possibility of removing them without the

tubes. The myoma was as large as an ostrich egg. She recovered without interruption, and left the hospital on Feb. 13th, greatly improved in health. In July, 1880, she had one slight show after a long railway journey, and has seen nothing since. She is now stout and of a ruddy complexion, has lost all the climacteric disturbance, and her tumour seems to be about one-third the size it was at the time of the operation.

CASE XI.—This was also a hospital patient. She had been quite regular until five years before I saw her, but since that time the periods had come on every fortnight and became gradually very profuse, so that for the last three months of 1879 it was practically continuous. She was extremely anæmic and worn down, and suffered great pain, and she had been under a number of doctors without getting any relief. I found a multiple myoma and advised the removal of the ovaries. This I performed on Jan. 17, 1880. I found the right ovary cystic (it is now in the College of Surgeons Museum), the left completely cirrhotic, and both tubes had to be removed to get proper pedicles. She made a rapid and easy recovery and left the hospital early in February. On March 3d I saw her and found her greatly recovered. She had gained flesh and colour and expressed herself as being better than she had been for years. She returned to Southport and remained perfectly well for about three months and then became ill and died. I have applied to the practitioner under whose care she died for particulars, but I am sorry to say I have not been able to get them. All I can learn is that the certificate of death had the entry of "Cancer of the Uterus," and the symptoms described by her friends correspond to this. The tumour at the time of the operation did not present any appearance of malignancy, as if being anything but an ordinary multiple myoma, about as large as a cocoa-nut. But it may have been malignant at that time. On the other hand it may have become malignant after the operation, though it can hardly be suspected that it did so as a result of the operation.

CASE XII.—This case was placed under my care by Mr. R. A. Newton, of Newhall Street, Birmingham, and in its results is one of the most brilliant I have ever experienced in the whole course of my practice, for the operation restored a woman, whose life was slowly being destroyed, to a condition of perfect activity and usefulness. Her menstruation began at the age of thirteen, always regular but very painful, and she never was able to sit up during her periods, being almost always confined to bed. She was married in 1876; and marriage greatly increased the severity of her sufferings. She became pregnant three months after marriage, and had a very long and severe illness after her confinement. Her second confinement took place early in 1878, and she had hardly been out of bed for the eleven months which elapsed between it and my first seeing her with Mr. Newton. My first visit to her was in May, 1879, and I found her with large, tender ovaries down behind the uterus, the fundus of which was retroverted and exquisitely tender to the touch. Her menstruation was extremely profuse, and she was very anæmic and suffering from hectic symptoms. Marital intercourse had always been painful to her, but since her last confinement she could not endure it at all. She had been under a great variety of treatments, from none of which had she been benefited in the least. No pressure could be endured. I did not see her again until January 6, 1880; and between my visits others had been consulted without result. When I saw her the second time I was fully persuaded, as was Mr. Newton, that she had not long to live if something could not be done

to relieve her. I proposed to remove the diseased ovaries, and that was at once accepted by Mr. Newton and her friends—somewhat reluctantly by the former. I operated on February 9th, and found the ovaries greatly enlarged, adherent, and covered by recent lymph. I removed the tubes with them. She made a speedy recovery and has never menstruated since. In a few weeks she was able to walk with assistance, then she rapidly gained strength, and now (May, 1881) enjoys health, such as she has never known in her life before; strong, robust, and wholly free from pain. Further, she tells me, that, while previous to the operation, she never submitted to marital intercourse without dread, and from it never derived anything approaching pleasure; now she has altogether different sentiments regarding it and derives from and confers upon her husband perfect satisfaction. This fact is also established concerning many others of my cases, but it is not a matter concerned in this paper, and those who argue against removal of the ovaries on the ground that it unsexes a woman, are profoundly ignorant of the physiology of the female sexual organs.

CASE XIII.—This patient was placed under my care in February, 1880, up to which time she had been under the care of Dr. Graily Hewitt. Her menstruation began at 12, and remained regular and comparatively free from pain till she was about 28. After that her periods gradually became more and more profuse till she was 36. Previous to my seeing her she had been wholly unable to walk for seven years, and had practically been confined to bed or to the couch for that period. She had been under many doctors, and for four years under one distinguished specialist without the least improvement. I found the uterus retroflected, the fundus enormously enlarged and spongy, and the ovaries lying down with it, both enormously enlarged. Everything had been already done which could be suggested, by drugs and pessaries, fruitlessly, and she had come prepared for removal of the ovaries. This operation seemed to me the only thing to be done, and the anæmic state she was in justified it for the arrest of the hemorrhage alone. I operated on her in February 20, 1880, and found both ovaries enormously enlarged and with them I removed the tubes. I also passed a stitch through the fundus of the uterus and fastened it up to the wound. She made a rapid recovery from the operation, and soon gained strength and colour, for she has never menstruated since. Her powers of locomotion, however, were slow to be re-established. She wrote me in October, 1880, eight months after the operation, that she could only drag herself along with sticks, and we almost gave up hope that she ever would mend in this way. In March, 1881, however, the long hoped for change came, and now, fifteen months after the operation, she can walk freely and without support, is free from pain, looks stout and well, and is in a condition of health as good as she was eleven years ago.

CASE XIV.—This lady was sent to me by Mr. Calvert, of Southwell, for distressing pelvic pain, profuse menorrhagia, and pronounced anæmia. The periods occupied the greater part of the month, and were very profuse. Ergot had exercised no influence upon them. I found she had a multiple myoma, and from her age I was averse to operate, hoping that nature would help us in arresting the periods. I therefore kept her under observation for seven months, and it was only (as in Case IX.) when it became evident that there was risk in a longer delay, that I suggested the removal of the ovaries. To this her attendant, who was also a very near relative, at once consented and I operated on March 10, 1880. The ovaries were down behind the tumour and were very difficult to reach, and the tubes

were removed with them. She made an uninterrupted recovery, and speedily gained flesh and colour. She has never menstruated since. I have seen her quite lately, and am perfectly satisfied with the results of the operation. The tumour has greatly diminished in size.

CASE XV.—In this case, brought to me by Dr. Clifton, of Leicester, the periods had been getting gradually profuse for about ten years. Of late, they had occupied the greater part of the month, she being rarely fourteen days clear. Sometimes there would be continuous loss for several weeks, and ergot and bromide had been fully tried without any perceptible effect. She was very anæmic, and had great difficulty in walking. I found, on examination under ether (she was unmarried), that there was a multiple myoma about as large as a cocoa-nut. I advised the removal of the ovaries. They were both cystic, and quite as large as a walnut. The tubes were also removed. She recovered rapidly from the operation, and has never menstruated since. She is now stout and ruddy, but she has suffered a good deal from the climacteric. She can walk well, and doubtless in a few months will be in perfect health. All these cases I ask to see me, or write to me, once a month for a period of two years after the operation. In the last letter of this patient, she says: "I shall probably not write again without there is something I want to consult you about."

CASE XVI.—The next case was that of a lady, aged thirty-three, placed under my care by Dr. Gibbs Blake, of Birmingham. She began to menstruate at thirteen, was married at twenty, and in eleven years had seven children. Her first child was born prematurely, and she had never been well since, for she got up and undertook a railway journey on the fourteenth day. After this she had continuous hemorrhage for several months. She had several premature and dead children after this, and then one living child and the seventh dead. Three years previous to my seeing her, she consulted a distinguished metropolitan specialist, who, upon his consulting-room couch, "did something to her which gave her immediately a violent pain in the back," and that pain she never lost for an hour, save when asleep or narcotized, till the day I operated upon her. What this was, which was done to her, of course I do not know, though I have little doubt it was the rectification of her remarkable retroversion by the sound. If it was, it is another example which we may quote against this mischievous practice. When I first saw her, I got the story that ever since this incident, the patient's life was a misery to her and her surroundings—that she could not get about—was on the couch all day long—her menstruation so protracted and profuse that it lasted quite half the month—and she had hardly recovered from the exhaustion consequent upon the loss and the increase of her suffering, when she was ill again. She had been under the hands of quite a number of specialists, both here and in London; and after reading her case up, and comparing the opinions expressed about it, and having come across one of my cases of spaying, she came to me deliberately to ask me if I thought I could spay her, and, if I could, if I thought it would do her good. She had been told that the womb was bent backwards, but that there was a tumour on either side of it. The tumour in question I found to be enormously enlarged and very tender ovaries lying behind and below a retroflected and retroverted fundus, which felt so large that it really might have been a question whether or not there was a myoma in it. From my previous experience, I was of opinion that fundal enlargement was due merely to chronic fundal metritis, though I was quite prepared to find a myoma at the operation. I had no diffi-

culty in such a case as this in recommending the removal of the ovaries, for the mere names of the gentlemen under whose care she had previously been, without benefit, were sufficient guarantee that everything short of that had been tried. Moreover, the patient, a clever, intelligent woman, knew all about her case, and told me pretty accurately all that had been done. I had, besides, the advantage of the history given by one of her medical attendants. The immediate arrest of the hemorrhage, which had been uncontrolled even by hypodermic injection of ergotin, would alone have been a sufficient warrant for the ovariectomy, but there were numerous other reasons in its favour. I, therefore, performed it on April 9th, and found the fundus enlarged from chronic fundal metritis only, the ovaries enlarged from chronic interstitial inflammation, and the displacement as I have described it. I removed the ovaries and tubes, and then stitched the uterus up to the wound, as in Case XIII. She made an uninterrupted recovery. She had no sign of menstruation until a month ago (April 1st). Mr. Crompton saw her with me after that, and we found the uterus perfectly normal in position and quite small. As she has passed through the climacteric distress, I have no doubt that the return of menstruation will be only temporary, the more as it seemed to be completely under the control of ergot. She has gained flesh and colour, and but for a persistent pain in the back would be perfectly well.

CASE XVII.—This case was sent to me by Dr. Clarke, of Chasetown. She had had considerable loss at her periods for eight or nine years, these lasting always a week and often longer. She married in 1878, and has been very much worse since. In July, 1879, after riding some distance in a cart, she was attacked by violent pain in the abdomen and profuse hemorrhage, which continued, in spite of treatment, more or less for four months, and produced a condition of extreme anæmia. In November, the loss became intermittent, but remained very profuse, and resisted all treatment. I saw her early in 1880, and recognized a large uterine myoma. After-treatment by ergot continued till April without effect. I removed the ovaries in April, removing the tubes as well as the ovaries. She left the hospital on May 15th very much improved, and the report in November last was, "She is well and strong, quite a different woman. She has seen nothing since the operation, and the tumour is not half the size it was in April last." She still continues in good health, and there has been no appearance of menstruation.

CASE XVIII.—In this patient, who came to me from Dr. Imsull, of Solihull, menstruation had been scanty until a year before I saw her, since which time it has become so profuse as to have to all appearances almost drained her of blood. For two years a tumour had been known to exist, and this I recognized as a large myoma, reaching about two inches above the umbilicus. I admitted her to hospital, and with a great deal of hesitation opened the abdomen to remove the ovaries. I did not find them till I had made an incision nine inches long, and pulled the tumour, which was very nodular, completely outside. It had no pedicles, or I think I should have performed hysterotomy. Down in the pelvis behind the tumour I found the ovaries, which were cystic and very large, almost as large as a clenched fist. After removing the ovaries and tubes, I had very great difficulty in getting the tumour back into the abdominal cavity and the wound closed over it. She made a very rapid recovery, and has never lost a drop of blood since. She speedily gained flesh and colour, and about six months after the operation I exhibited her at a meeting of the

Birmingham Branch. The cicatrix of my nine inches was then only seven and a half inches long, and the tumour did not rise to its upper limit by nearly two inches, the size of the tumour being certainly less than half what it was at the time of the operation. She has suffered a good deal from climacteric distress, but when I saw her last (on April 21st) she was in very good health.

CASE XIX.—This patient, sent to me by Dr. C. H. Phillips, of Homley, had been married seventeen years, and had had only one child, two years after her marriage. After her confinement, she had had some pelvic illness, of which she gave no very clear account, but which I have no doubt was peri-*o*ophoritis. Her periods ever since have been too frequent and too profuse, indeed, she was seldom a fortnight clear. The pain at her periods was intense, and she was seldom free from pain. Her attendant, Dr. Phillips, of Homley, had sent her down several times to me, and I had tried a variety of methods of treatment without any benefit. The condition was that the uterus was retroverted, with a large tender mass on either side of it, which I supposed to be the ovary, but which the operation proved to be the distended Fallopian tube. I saw her first in Feb. 1880, and in July Dr. Phillips wrote: "She does not seem to me to be any better than she was before she came to Birmingham the first time. Since she last saw you, six weeks ago, she has been distracted with pain in her back, and also in the left iliac region, which I cannot relieve, even with strong doses of opium. She has also been unwell three times during the last six weeks, each time over six days, and is now only just recovering from what has been a severe attack of flooding." We, therefore, agreed to remove her ovaries, and this I did on August 3d. I found them large and cystic, strongly adherent to surrounding structures, so that I had to exercise great care in picking them out. The infundibulum of each tube was densely adherent to its ovary, and the tube was distended into a large cyst by yellow serous fluid. She made a very good recovery, and in a letter to me in September she wrote "I am very much better; I am thankful to say I have no pain like I had before the operation." For a long time before the operation she could not submit to marital intercourse at all. Now she can do so without any discomfort.

CASE XX.—In June, 1880, I was called by Dr. Collis, of Bridgnorth, 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 labours 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 favours 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 afterwards 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 dilation 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 the 10th of July, 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 the 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 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 I 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 ovaries. 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 a half inches long, and its bleeding points were indicated by a flow of serum almost devoid of colour. 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. She has had the usual flushes and

other slight indications of the climacteric, but these are now completely worn off. In this case I did not remove the tubes, and on the 26th of March, 1881, they informed me that she had a slight period; this again occurred towards the end of April.

CASE XXI.—In this case, sent to me by Dr. Sutton, of Wednesbury, menstruation did not appear until she was nineteen. She was pretty well until marriage (at twenty-two), but she has never been well since. Menstruation speedily became irregular and very profuse, often lasting a fortnight, and she suffered intense pain during the whole time, the pain amounting to agony during the first three or four days, and large doses of opium were taken for its relief. She had never become pregnant, and married life was the source of such suffering that she had to decline it altogether. Dr. Sutton had treated her so well that it seemed to me useless to try over again all that he had found useless. I therefore advised removal of the ovaries, and this was performed on August 16, 1880. Both glands were adherent down in Douglas's pouch, and were removed with great difficulty. The tubes were adherent to the ovaries, and distended by about an ounce of purulent fluid. They were removed with the ovaries. She made a speedy recovery, and has not menstruated since. Dr. Sutton tells me she is in perfect health. I have not seen her since October, and then she told me that intercourse had been resumed satisfactorily.

CASE XXII.—This patient, placed under my care by Dr. Drummond, of Fosta Green, had been gradually getting large round the waist for eighteen months, and her periods during the same time had become excessive. A large myoma occupied the pelvis and lower abdomen, and had given rise repeatedly to retention of urine. I admitted her to hospital and removed both ovaries and tubes on August 17, 1880. She left the hospital well on September 5. I heard of her in January last as being perfectly well, but I have not seen her personally, and I have not been able to trace her since January.

CASE XXIII.—This patient had noticed for twelve months that her abdomen had been increasing in size, and her periods had become so excessive that her condition, when sent to me by Dr. Fenton, of Coventry, was one of advanced anæmia. She had a large myoma reaching almost to the umbilicus. I admitted her to hospital and removed both ovaries, which proved to be cystic. The tubes were not removed in this case, but the arrest of the hemorrhage, up to the time I last heard from her, was complete.

CASE XXIV.—This case was sent to me by Dr. Horton, of Chasetown, and was in some respects as remarkable as XX., 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 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, in spite of a great variety of treatment; 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 ovaries, 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 favour at first, and it was only after prolonged discussion with my colleague, 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, and the patient made a complete and rapid recovery. In this case I also removed both tubes. Though only a few months have passed since the operation, the woman's improvement is most manifest. I saw her lately and hardly recognized her. She has not had the appearance of menstruation since the operation.

CASE XXV.—This case was brought to me by Dr. Somerville, of Bloxwich, in a condition of advanced anæmia. She had been married thirteen years, but had never been pregnant. Her periods came on after only ten or twelve days' interval, and were extremely profuse. Dr. Somerville had tried everything in vain, and I therefore advised removal of the ovaries, though I had some doubt as to whether the case was not too far advanced for the operation to be successful. I removed the ovaries on October 26, 1880, and found them both cystic. The tubes were also removed. She made a very protracted and anxious recovery, suffering from excessive night sweats and high temperature for six weeks, so that I feared she was likely to become tubercular. She went home on November 29th, and recovered slowly under Dr. Somerville's care. He informs me that there has been no return of the hemorrhage, and that his patient is doing well.

CASE XXVI.—This case was placed under my care in November last, by Dr. Stephenson, of Braduinch. She was forty-two years of age, and for three years had suffered from pain and profuse menstruation. Two years before she noticed an increase in her size, and some months after that Dr. Stephenson recognized the presence of a tumour. The periods came on at intervals of only eight or ten days, and the loss was excessive, resisting all remedies. On Nov. 16, 1880, I opened the abdomen, and finding it impossible to remove the tumour I removed the ovaries. They were both cystic. She had no bad symptom till the fourth day, when the abdomen began to distend. Every effort to get the bowels to move was fruitless, the distension increased so as to threaten to tear open the wound, and I had to resort to puncture of the intestines to avoid this catastrophe. The temperature did not rise at all, and the pulse only when exhaustion set in. She died on the eighth day, and the post mortem revealed nothing but simple distension of the intestines, with a limited effusion of lymph in the neighbourhood of the wound, which was sloughy and gaping.

CASE XXVII.—This patient was placed under my care by Dr. J. W. Taylor, of Birmingham. She had a myoma as large as a child's head,

the symptoms of which had been present and progressing for three years. For nine months she had been under Dr. Taylor's care, and his treatment for its arrest had not been successful. He therefore placed her under my care for the purpose of removing the ovaries, which I did on December 18, 1880. They were very difficult to find, and were both cystic. I removed the tubes as well. She recovered rapidly. I have not seen her since, but Dr. Taylor tells me her progress is perfectly satisfactory, and there has been no more hemorrhage.

CASE XXVIII.—In this patient, sent to me by Dr. Plowman, of Coventry, there was a pelvic tumour, the nature of which was not clear. The symptoms were urgent, and the patient very anæmic. I removed the ovaries on Jan. 13, 1881, and found them both cystic. I removed the tubes as well. She left the hospital on February 1st. A few days after leaving the hospital she became very ill, and in about a week I went over to Coventry to see her, and found that something had sloughed out of the uterus, probably a piece of the tumour. Even at the operation the nature of the growth was not clearly ascertained, though it seemed to be myoma of the anterior wall. She has made a good recovery, and menstruation so far is completely arrested.

CASE XXIX.—This woman, recommended to me by Dr. Kenny, of Birmingham, had been married nineteen years, and had three children, the youngest being seven years of age. About eight years ago, her periods began to be profuse, and they have continued progressively so ever since. Marital intercourse or any excitement always brought on a flooding. She had wandered about from doctor to doctor, and had been in several hospitals without deriving any benefit. Dr. Kenny placed her under my care for the purpose of having the ovaries removed, on account of a large myoma which he had discovered. Amongst other treatment employed was that of Chian turpentine at the hands of its introducer, for a period of seven months, and without benefit. She was so feeble and so extremely anæmic, that I greatly feared I should have an unfortunate result. The operation was performed on Feb. 11, 1881. The tumour was as large as a cocoa-nut. The right ovary was a cystoma, almost as large, and the left ovary was also cystic, as large as a clenched fist. Both tubes were removed. The patient made an excellent recovery, and has lost no blood since.

CASE XXX.—This patient is just completing her recovery from the operation, and, therefore, nothing can be said more than that the tumour was very large, the ovaries were very difficult to find, and were both cystic, and that the tubes were both removed. She is a near relative of her medical attendant, Dr. Sutton, of Durlaston, who has been associated with me through the case. Though it is only about six weeks since the operation, the tumour is much less than it was before, and one of the most distressing symptoms, retention of urine, is completely relieved.

CASE XXXI.—A. W., 25, sent to me by Dr. Forty, of Wotten-under-Edge, with the following letter: "Do you remember a young woman named —, who was under your care at the Birmingham Hospital for Women in June, 1879? She suffered then from painful and profuse menstruation. She is now in much the same condition as when she was under your care. The periods are frequent and very painful; the loss of blood excessive, and between each period there is a great deal of white discharge. She gets attacks of abdominal distension, and suffers a good deal of pain constantly. She can hardly move about the house even. After reading

your account of cases of ovariectomy it struck me that this girl might be a case in which such an operation would be justifiable and successful. She is perfectly willing to undergo this or any other measure which would be likely to give her relief. She has been in the hands of several competent medical men, and all sorts of simpler means have been tried."

In the hospital notes I find that in 1874 I had dilated and explored this girl's uterus, and found nothing in it, that I had repeatedly rubbed the whole mucous surface with solid nitrate of silver and with nitric acid, and with no result. When she came back to me in February last, I found her very anæmic, quite unable to walk, and both ovaries large, tender, and fixed. I removed them with the tubes on March 2d, and found them both cystic, the left being adherent between the uterus and rectum, and as large as an orange. She made an easy recovery, and went home in the second week of May, much stronger, and almost free from pain, and able to walk fairly well.

No.	Age.	M. or S.	Disease.	Operation.	Date.	Hosp.	Private.	R.	D.	After result.	Remarks.
1	41	S.	Cystoma	Rem. left ov.	April 22, '73	..	P.	R.	..	Complete cure	
2	40	M.	Myoma	" both "	May 22, '73	..	P.	R.	..	" "	
3	41	M.	Cystoma	" right "	Sept. 9, '73	..	P.	R.	..	" "	
4	44	M.	Myoma	" both "	Dec. 23, '73	..	P.	..	D.	" "	
5	38	M.	Myoma	" " "	Mar. 14, '74	H.	D.	" "	
6	21	S.	Cystoma and peri- oöphor- itis	" " "	Aug. 8, '79	H.	..	R.	..	Complete cure	
7*	41	S.	Myoma	" " "	Aug. 28, '79	..	P.	..	D.	" "	
8*	47	M.	Myoma	" " "	Oct. 18, '79	..	P.	R.	..	Complete cure	Ovaries cystic.
9	52	M.	Myoma	" " "	Nov. 30, '79	..	P.	R.	..	" "	" "
10*	34	M.	Myoma	" " "	Jan. 13, '80	H.	..	R.	..	" "	" "
11*	48	S.	Myoma?	" " "	Jan. 17, '80	H.	..	R.	..	Died of cancer	" "
12	22	M.	Ovaritis	" " "	Feb. 9, '80	..	P.	R.	..	Complete cure	" "
13	36	S.	Ovaritis	" " "	Feb. 26, '80	..	P.	R.	..	" "	" "
14	52	S.	Myoma	" " "	Mar. 10, '80	..	P.	R.	..	" "	" "
15	42	S.	Myoma	" " "	April 7, '80	..	P.	R.	..	" "	" "
16	33	M.	Ovaritis	" " "	April 9, '80	..	P.	R.	..	Great improve- ment	" "
17*	39	M.	Myoma	" " "	April 22, '80	H.	..	R.	..	Complete cure	" "
18*	46	S.	Myoma	" " "	May 8, '80	H.	..	R.	..	" "	" "
19	37	M.	Cysts of Fal.tubes	" " "	Aug. 3, '80	..	P.	R.	..	Great improve- ment	Ovaries cystic and tubes ad- herent.
20*	29	M.	Cystoma	" " "	Aug. 6, '80	..	P.	R.	..	Complete cure	Ovaries cystic.
21*	28	M.	Cirrhosis of ov.	" " "	Aug. 10, '80	H.	..	R.	..	" "	Tubes adherent.
22*	49	M.	Myoma	" " "	Aug. 17, '80	H.	..	R.	..	Great improve- ment	Cystic ovaries.
23	47	M.	Myoma	" " "	Sept. 1, '80	H.	..	R.	..	Complete arrest	Ovaries cystic.
24	39	M.	Cystoma	" " "	Sept. 10, '80	H.	..	R.	..	" "	" "
25	35	M.	Myoma	" " "	Oct. 26, '80	..	P.	R.	..	" "	" "
26*	42	M.	Myoma	" " "	Nov. 16, '80	H.	..	R.	D.	" "	" "
27*	44	S.	Myoma	" " "	Dec. 18, '80	H.	..	R.	..	" "	" "
28*	32	M.	Myoma	" " "	Jan. 13, '81	H.	..	R.	..	" "	" "
29*	43	M.	Myoma	" " "	Feb. 12, '81	H.	..	R.	..	" "	" "
30	34	S.	Myoma	" " "	April 20, '81	..	P.	R.	..	" "	" "
31	25	S.	Cystoma	" " "	Mar. 2, '81	..	P.	R.	" "

The thirteen cases marked (*) had the spray and other Listerian details used, and as they include one of the two deaths in the recent series (23 in number), it is clear that they have had no influence one way or the other in the results.

From these cases I think the following conclusions may legitimately be drawn:—

I. That as far as its primary results are concerned, removal of the uterine appendages for the arrest of intractable uterine hemorrhage, is an

operation which is quite as easily justified as any of the major operations of surgery.

II. That so far as its secondary results are yet known, it is an operation which yields abundant encouragement for its further trial.

As conclusions which are indicated, but not wholly proved, I think I may formulate a statement that removal of the ovaries alone is not sufficient to arrest menstruation, but that removal of both tubes and ovaries does at once arrest it. So far as some of these cases have gone the arrest would seem to be permanent. This conclusion is quite in harmony with what is known of removal of both ovaries for large cystomata, for in such cases the tubes are almost uniformly included in the clamp or ligature, and menstruation is arrested.

Three at least of the cases, and probably two others, show that the arrest of menstruation by this means leads, or may lead, to the atrophy of the tumours.

Finally, there is some close connection, here pointed out I believe for the first time, and worthy of very clear study, between uterine myoma and its accompanying hemorrhages, and cystic disease of the ovaries. In two of the cases the cystic disease seemed to be the cause of the hemorrhage, without any myoma intervening.

Another conclusion is, I think, to be justified, that the whole subject is worthy of careful study, and should not be made the subject of premature and hostile conclusions.