LECTURES

ON THE

DIAGNOSIS AND SURGICAL TREATMENT OF ABDOMINAL TUMOURS.

Delivered at the Royal College of Surgeons of England.

BY

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LECTURE V—June 19th, 1878.

Results of Clamp and Ligature in Ovariectomy.—Treatment of Adhesions.—Accidents during Operation.—Incomplete Operations.—Successive Changes in the Mode of Operating and After-Treatment.—Lives Saved by Ovariectomy.

SINCE I came into the College to-day, I have been asked to fill up some omissions in the last lecture. Three particularly were mentioned to me: in the first place, I was asked to say something about the relative advantages of the clamp and ligature in the treatment of the pedicle; next, about the treatment of adhesions, if they bleed after they are torn; and, thirdly, something more about the accidents which may occur in the course of an operation.

Before speaking about the clamp and the ligature, and their relative advantages, I will just show two clamps which I omitted to show amongst others at the last lecture. This one is what is called the "Leeds" clamp, devised by a very ingenious clergyman, the chaplain to the Leeds Infirmary, who, seeing the difficulties met with by operators with other forms of clamp, thought he could devise a better one. It really is a very simple and ingenious form of parallel clamp. I think it wants a screw on both arcs, instead of on one arc only. I tried it, but found it not quite so convenient as my own, inasmuch as, when there was a pull upon the clamp from inside, the arcs were tilted upwards and the corners pressed into the abdomen of the patient, and it did not seem to lie so comfortably as my ordinary clamp. I doubted also whether it was quite secure without a second screw. This one is an American clamp, invented by Dr. Dawson of New York, and I tried it in three cases. It seemed to answer the purpose of compressing the pedicle into a very small space extremely well. The pedicle was placed in this open space; then the side was closed and fixed by a screw, and then by gradually turning this screw, the pedicle is very securely fixed in a moderate compass; but the long crossbars were found inconvenient when pressed against the abdomen of a patient under a tight bandage; and on the whole, I prefer very much the curved instrument I showed at the last lecture.

I will now ask you to look at these two preparations, which show what becomes of the ligature some time after the operation, if left in. They have been extremely well figured in a very interesting paper by Mr. Doran, a son of Dr. Doran, the well known author, one of the assistants in the museum, a junior worker with me at the Samaritan Hospital, and well known at St. Bartholomew's. The son has already given us good grounds for believing that he is well worthy of the honourable name he bears, and that he will obtain as good a position in our profession as his father did in literature. In his paper, in the thirteenth volume of the *St. Bartholomew's Hospital Reports*, he gives drawings of these two preparations. Here is one showing the pedicle of an ovarian tumour the sixth day after operation. The other preparation is one taken some few months after operation. The operation was performed by my colleague Dr. Bantock, and you see here the uterus and the remnant of the pedicle. No remains of the ligature could be found. Above is a shred of omentum, which formed an accidental attachment with the fundus of the uterus. Vegetable thread was employed in this case, hemp or twine, which one would think less likely to disappear than a ligature formed of some animal tissue such as silk or catgut; yet this vegetable substance completely disappeared. In this paper of Mr. Doran, there is a very able review of what he calls the "complete intraperitoneal ligature" of the pedicle in ovariectomy; the complete being when the ligature is cut off short and returned with the pedicle into the abdomen, as distinguished from what he would call the "incomplete", when the ends of it are brought out, as they used to be formerly, through the opening in the abdominal wall. There is a very good account of the history of these ligatures, and of the way they

were introduced by Dr. Smith of Connecticut, who made his ligature of strips of leather from a kid glove. Dr. David Rogers of New York also tied several vessels separately with leather. I do not think I need trouble you with anything further about the materials used for ligature than to say, with regard to any supposed advantage of wire, that I have never used it in women, because some experiments which were made for me by Professor Gamgee at the Veterinary College upon sheep seemed to prove that there was no advantage in the wire over silk, whereas it set up a good deal more irritation in the parts surrounding it than silk did.

The relative advantages of the clamp and ligature may possibly be best learned from the results of actual work. There is no doubt a very great advantage in the clamp at the time of performing the operation. It is put on quickly, and bleeding is suppressed with complete security. In none of the cases I have done, have I ever known a single instance of dangerous bleeding in consequence of the slipping of the clamp; whereas after the use of the ligature I have known that to occur. I myself have lost two patients from primary hæmorrhage a few hours after the operation, simply from the slipping away of the broad ligament from the grip of the ligature, internal bleeding taking place, and the patient actually dying of primary hæmorrhage. But after the use of a good clamp, I have never had a case of serious bleeding. I know also that this accident has happened to other surgeons of my acquaintance, and has proved fatal; therefore in estimating the advantages and disadvantages of the two methods, one must allow that, so far as regards security from primary hæmorrhage, the advantage is altogether on the side of the clamp. The advantage of the ligature is that it allows the wound to heal with less interference, less frequent dressing is necessary, and the patient is certainly, in the first few days after the operation, in a more comfortable state than occasionally happens after the clamp. Very often, the patient is quite unaware of a clamp being there. It does not cause the slightest inconvenience. But occasionally there is a certain amount of unpleasant discharge around it, and some redness and swelling where the lips of the wound are brought round the pedicle, which one does not meet with in the wound when the ligature is used. In this respect, the balance of advantage is in favour of the ligature; but the main question is, of course, what is the proportion of recoveries? I will not attempt to calculate what this may be in the hands of other surgeons, but I can compare the results of the clamp and ligature in my own practice. I have here a table of the results of nine hundred cases. I completed the nine hundredth operation last week; and I have gone into the result of the treatment by the clamp and by the complete intraperitoneal ligature, or what we call the ligature returned. I find there were six hundred and twenty-seven cases treated with the clamp, of which one hundred and thirty died; that is a mortality of 20.73. With the ligature, one hundred and fifty-seven cases were treated, with sixty deaths, or a mortality of 38.2. Speaking simply, the mortality is nearly doubled; the mortality of the same operation in the hands of the same operator is 18 per cent. more with the ligature than with the clamp. Now whatever may be said about inconvenience, about the necessity for frequent dressings, about the possibility of some erysipelatous or inflammatory condition around the lips of the wound in the abdominal wall, the evident reply is, that none of these things are to be compared in importance with the result to the patient. It does not much matter to her whether she be a few days more or less in bed or suffering more or less inconvenience. The great point to her is whether she dies or gets well; and if, out of a large number of cases, the mortality be nearly double with the ligature, it would be a very strong reason indeed that would induce one to use the ligature in preference to the clamp, provided the case to be one where the clamp could be applied. Supposing one is driven to something else than the clamp, then probably the ligature is the best alternative; but if it be a case in which one has a free choice between clamp and ligature, we must take these facts into consideration and adopt the method which seems to be most likely to lead to the recovery of the patient.

I must ask you to allow me to read what I said in my book on *Diseases of the Ovaries* (to which I have often referred before in these lectures) about these two methods. "But no surgeon who has had much experience of ovariectomy, would bind himself to adopt in all cases either the extraperitoneal or the intraperitoneal method, or any of the modifications by which either principle is carried out in practice. Every surgeon should go to an operation prepared to carry out the particular method which appears to be best adapted to the peculiar circumstances of the case, which present themselves as he proceeds. If the pedicle be small enough to be securely held in a clamp of moderate size, and long enough to permit the clamp being fixed outside the closed wound, without much pull on the uterus or broad ligament, no more ready or more successful method than the clamp can be desired. When the pedicle is so short, broad, or thick, that a

very large clamp would be necessary to secure it, that the wound could not be closed around it, and the traction upon the uterus when the clamp was fixed outside the abdominal wall excessive, either the ligature or the cautery should be preferred to the clamp. Or if, after applying a clamp, it be found that it cannot be fixed outside without undue strain upon the uterus, either the cautery may be used, or the pedicle may be transfixed and tied, and the clamp removed after it has served its temporary purpose." To that I have now very little to add. I still believe surgeons should be prepared to adopt one or other method as it seems to be most advisable when the operation is approaching its completion. I may have a little more to say about this when we come to consider the question of antiseptics in ovariectomy, because it has been supposed that the antiseptic system will interfere with the use of the clamp; that, if we attempt to carry out the antiseptic system, the clamp will be so serious a hindrance, that it would be better to give it up altogether and adopt the ligature as the most consonant with the requirements of the antiseptic system.

I did not show at the last lecture, as I intended to do, this instrument for tearing off an ovarian tumour. It was introduced by Dr. MacLeod of Glasgow, who, in one case at least, adopted it successfully, and his example has been followed in Leeds, where I have been told the result has also been good. I have never yet employed it, but I thought you would like to see the instrument. The pedicle is seized, and by the screw in the handle it is securely fixed, and then by means of this other instrument the cyst is forcibly torn or twisted off. The idea is borrowed from the practice of veterinary surgeons in the castration of colts. I can imagine there may be some cases in which it might be adopted with good result. It has been proved by Dr. MacLeod's experience, and that of others, that it can be done, but I can say nothing of it from my own experience.

With regard to the treatment of torn adhesions, supposing they go on bleeding, which they do not very often if they are only torn, I should say that by tearing them one adopts the most certain means of preventing bleeding. As a rule, if adhesions be torn and the tumour removed, the abdominal wall contracts, and this contraction stops the bleeding; but if the adhesions be cut by scissors or knife, they do sometimes bleed, and in a troublesome way. There are two or three different modes of dealing with them. The torsion-forceps I showed here the other day may be left on for a few minutes, and very often their compression will be sufficient to stop the bleeding. Occasionally, it may be necessary to put a ligature on some bleeding point. I have met with very troublesome bleeding from a large mass of varicose veins on the inside of an abdominal wall. In that case, I passed two needles from within outwards, and tied a silk suture over a pad placed outside. Professor Simpson passed a thick needle in one or two cases through the abdominal wall, and stopped bleeding by the acupressure. But in the only two cases in which I have myself seen much trouble from oozing of blood from separated adhesions, I stopped it in a very simple way. There was plenty of lax abdominal wall to deal with, so I simply held the two loose folds of the abdominal wall firmly together while the sutures were being introduced, sponged out the cavity, kept up the pressure, and doubled or folded the two bleeding surfaces against each other, and doing as Dr. Kimball of Lowell had done before me, though without my knowledge, I passed a couple of needles through the whole thickness of the abdominal wall. Suppose the inner surface of the abdominal wall is bleeding, the two sides are pressed together, and a long strong needle is passed above and another below, and then by a pad on each side—I used cork—the two surfaces are pressed together. Very firm pressure is made of the two oozing surfaces one against the other. In my case, there was no bleeding whatever; and after two days, when the lax abdominal wall had contracted, and the needles were removed, it really would have been quite impossible to discover that anything unusual had been done.

With regard to other accidents that may happen during the operation, I need not mention more than one. I spoke the other day about a sponge being left in the abdomen; and I have another confession to make, showing the necessity for counting forceps as well as sponges. Not very long ago, I removed both ovaries from a young married lady, and a great many forceps were used. After removing one ovary and securing the pedicle, the other ovary had to be removed. It was a very short pedicle, and five or six of my torsion-forceps were put on in order to secure the bleeding vessels while I was tying them separately. I took off, as I thought, every pair of forceps, closed the wound up, and everything seemed quite as it should be. But, about two hours after the operation, I received a message from a friend who was putting up the instruments for me, to say there was a pair of forceps missing. We knew exactly the number of forceps; if we had not known that, one pair would not have been missed. This shows how necessary it is

always to know how many forceps are taken. It was about five in the afternoon when I had this message: "There was a pair of forceps missing, probably they might be in the patient." Imagine the sort of feeling with which one would receive that intimation. I at once went to the patient. She seemed so well that I did not like to disturb her; there was some doubt where the forceps might be, so I thought I would wait a little longer. I waited till night; she still seemed pretty well, and I thought I would wait till the morning; but in the morning, the nurse told me the lady had been very restless. I then made a careful examination, by the vagina and rectum and abdominal wall, to see if I could feel the forceps, but there was nothing to be felt at all. Still I was uneasy, and I thought I had better open the wound. So I asked Mr. Thornton to come with me and throw some carbolic spray over the abdomen, and making some excuse to the patient, just saying I thought it necessary to change the dressing and it would be as well that she should not feel it, we gave her methylene, removed the dressing, and took out two stitches. I put one finger in, but at first could not feel the forceps. At last I found something hard, put another finger in, and found the forceps wrapped up in the omentum. From the way in which the omentum had insinuated itself into the ring-handles of the forceps and between the blades, it was easy to understand how difficult it was to find and remove the instrument; but I did it, returned the omentum, closed the wound, and the patient was none the worse. She got perfectly well, and to this day does not know that anything unusual occurred. Pray let me use this confession to impress upon you the necessity, not only of counting sponges, but of counting instruments also, that you may avoid any such painful experience.

I did not show at the last lecture, as I intended, the sort of tube we use when it is thought necessary to drain the peritoneal cavity. I will not trouble you with any discussion as to the necessity of performing drainage, or the indications when it should or should not be done, because, in the paper published in last year's volume of the *Transactions* of the Royal Medical and Chirurgical Society, any one may read what I thought of the way the system of drainage originated, how it was carried on, and in what exceptional cases we may now carry it out with advantage, but discarding it altogether as a common or usual mode of treatment. But, supposing it is thought necessary to employ it, we use one of these glass tubes (with a little shoulder to prevent it slipping into the abdominal cavity), with some small openings, so that no omentum can be drawn inwards. It is passed in at the lower angle of the wound, and two stitches are put round the shoulder. The tube serves quite well for the introduction of an elastic catheter, or piece of India-rubber tubing attached to a syringe, by which fluid may be drawn out, and any thing may pass through the tube into a sponge, placed over the opening, saturated with carbolic acid or some other antiseptic.

I think I may now pass on to say something about the treatment of patients after ovariectomy; and, first, I will allude to warmth and diet, and to the amount of alcohol that should be given. Twenty years ago, when I first began to perform ovariectomy, the operation was done in a room which was heated to 70 or 75 deg. Fahr., and it was made moist by steam from a kettle. The kettle was placed on the fire, a long spout brought from the kettle, and the room filled with the steam of boiling-water. The room in which the patient was kept after the operation was also heated in the same way with moistened air, and the patient was kept in a continual bath of perspiration by an abundance of bed-clothes. A great deal of opium was given, as a rule, whether the patient was in pain or not, with the intention of keeping the bowels quiet several days; and also, as a rule, stimulants were given very freely. The first innovation I made in this routine practice was to operate in a room of comfortable temperature, the air being as pure as I could obtain it, without any admixture of steam, making no attempt to maintain excessive perspiration; only giving enough opium to moderate pain, and only giving stimulants when the failing power of the patient appeared to call for their use. As an article of ordinary diet, when a patient is recovering after any operation, alcohol in any form has become less and less in use; and as a medicine, although it is occasionally given freely, I may say almost without limit when the failing powers of the patient seem to demand it, still of late years I have gradually fallen into the habit rather of prescribing it as a medicine in stated doses, and at regular intervals, or with special directions to the nurse to watch its effects, as if it were a drug, giving none as an article of ordinary diet; on the contrary, giving directions that none should be taken unless specially ordered. In my book, published in 1872, I have said that, instead of giving opium in large doses at stated intervals under medical prescription, the nurse is directed to give small opiates, and only enough to keep the patient free from severe pain; and I add: "Stimulants, such as brandy or champagne, must also be left to the nurse, but with explicit directions that they are only to be used when called for by fainting, or chilliness, or some sign of exhaustion." Of late years, I

have noticed a less frequent necessity for stimulants, as a rule, and they have certainly been used in smaller quantities; but I cannot agree with those who say that they never administer alcoholic stimulants after surgical operations. One of my colleagues at the Samaritan Hospital has lately published a valuable little practical essay, in which he says he has never seen stimulants do any good, that he never administers them, and that he believes "all cases of operation are better without them". I, on the contrary, believe that I have more than once seen a dying woman called back to life by the free administration of brandy; that I have seen her powers maintained by a combination of food and stimulants when food alone would not be digested; and I trust that members of this College, or of any other profession, however warmly they may feel on this subject, however anxious they may be to check the terrible evils of intemperance, however great may be their desire to see the experiment tried of the comparative efficiency of a hospital where stimulants are never used and other hospitals where they are used in moderation or even in excess, will not suppose that, because any of us feel it to be our duty occasionally to administer alcohol very freely, we are less anxious than the most enthusiastic total abstainer can be to lessen the evils of intemperance in this country.

As a means of lowering temperature, supposing it rises after ovariectomy, as it often does, sometimes we have tried aconite in small doses, quinine in large doses, salicylic acid in the form of salicylate of soda—in fact, almost every medicine that has been suggested as a means of lowering temperature; but all these trials have ended in disappointment. We have, however, succeeded distinctly in lowering temperature, and in keeping it low, by the application of ice or iced-water to the head. The first trials were made after a suggestion of Dr. Richardson, by putting an ice-bag round the neck. Dr. Richardson believed that, by icing blood that went through the carotids to the brain and blood that came back through the jugulars, we should directly lower the temperature of the brain itself; and probably it may have been done experimentally, but in practice it was not found easy to do. It was difficult to keep any sort of cravat or collar that we tried filled with ice round the neck of the patient; it slipped off, and so we were reduced to the old India-rubber bag, or the ice-helmet which is so well known in lunatic asylums. But that was inefficient; it did some good, but it was not enough; and, after a time, Mr. Thornton contrived this form of cap, which answers the purpose extremely well. A pail of water, with a large lump of ice in it, is placed by the bedside of the patient, and the stream of iced-water runs through the cap, which is formed of a series of tubes of India-rubber, lined with linen. That is placed upon the patient's head. It is made of different sizes to fit different shaped and sized heads; and this other tube is put into a second pail on the other side of the bed, and by this means the head is iced. The effect in lowering temperature is very marked. It is very seldom that within an hour the effect upon the patient cannot be distinctly proved by the thermometer, and I believe in many cases it has been of very signal service. If the temperature be rising, the rise is checked; and if it be very high, it can be lowered; and so time is gained for the recovery of the patient. A great many of the evil results of ovariectomy seem to be due to the fact that the temperature of the body for a time is too high. The brain receiving blood of a temperature five or six degrees higher than it has been accustomed to, does not give its orders to the secreting organs as it should do, and they all suffer in consequence. The kidneys do not act; there is no action of the bowels; all the processes of nutrition and secretion suffer, because the brain is overheated. If we can keep the brain cool, all the functions of the body go on much better, and we gain time for the recovery of the patient.

Before leaving the subject of the general condition of the patient after ovariectomy, I would say if, in spite of all our care, bad symptoms do set in, if the patient's temperature rise and she get swelling of the abdomen and rapid pulse, with pain and sickness, one should never be content without examining carefully to see if there be any fluid accumulating in the abdominal cavity, supposing there is no drainage-tube there to carry off the fluid, whatever it may be. It is not at all uncommon to find, when one does make an examination by the vagina or the rectum, the evidence of fluid having formed in the peritoneal cavity and gravitated to its most depending part. The swelling is found between the vagina and the rectum; and in several cases I have found, on puncturing the swelling through the vagina with the trocar, that the escape of fetid fluid has been followed by immediate amendment of the patient, and by keeping a cannula in the opening, so that it does not close until all the fluid has escaped, the recovery has been completed.

I should have said that one of the objections to the ligature is that, in many cases after its use, it has been found that sooner or later a pelvic abscess may form. There may or may not be some collection of fluid soon after the operation, but, weeks or months afterwards, an abscess

forms, and opens either through the vagina or rectum, or elsewhere; and then there may come away shreds of tissue enclosed in the ligature, or, as has been observed in several cases, many months after operation, a fecal fistula has formed. In a recent paper by Hegar, a photograph is given of a large piece of membrane from a patient who did recover eventually, but who passed through the rectum from a pelvic abscess a large shred of broad ligament with the ligature. The ligature is shown tied round the remnant of the pedicle, and a large portion of the broad ligament which came away with it. This does not look encouraging, but still the patient recovered, and Hegar does not seem to look upon it as any objection to the use of the ligature.

I have now to refer to the proportion of incomplete and exploratory operations. In my book on *Diseases of the Ovaries*, published in 1872, I gave full particulars of five hundred cases of completed ovariectomy, including twenty-five cases where both ovaries were removed at one operation. In the nineteenth chapter of that work, in addition to the five hundred completed cases, separate tables are given of twenty-eight cases of incomplete ovariectomy, and of twenty-four cases in which an exploratory incision was made, making together fifty-two cases of incomplete or exploratory operations occurring during the progress of five hundred cases of complete ovariectomy, or rather more than 10 per cent. Since the completion of the five hundred cases, I have completed ovariectomy upon four hundred other women, and during that time I have had thirty exploratory incisions or incomplete operations, a proportion of 7.5 per cent.; so that my hope of diminishing the number of these incomplete operations by increased experience has not proved groundless. Out of the thirty cases, death was probably accelerated in eight. In four others, whose death occurred at various periods from fourteen to fifty-two days, the incision probably had not much effect either in lengthening or shortening life. In some of those who are still alive, the effect was neither more nor less than that of tapping. Five patients, from whom in 1873, 1874, and 1875 part of an extra-ovarian cyst was removed, appear to have been completely cured. In two of these cases, the remaining part of the cyst was drained. Fourteen recovered from the immediate effects of the operation, and, excepting the five just alluded to, whose recovery seems to have been complete, one died five months after, one a year after, and others who were well in 1877 had been tapped again.

I have arranged here a table, which will probably be printed in the journals which will publish these lectures, giving the particulars of all these thirty cases, just as the particulars are given of the cases of completed ovariectomy in the book: the name of the medical attendant, date of operation, age of patient, condition as to being married or single, the nature of the operation done, and the result. I should say about these incomplete operations that, when I began to publish every case of completed ovariectomy, and published in a separate series the cases where the operation was commenced but not completed, a good many objections were made, and it was said that, instead of putting complete cases in one list and incomplete in another, all the operations ought to be put together. But the obvious answer to this is, What is to be done when a patient has recovered who has been little more than tapped? She has recovered from the tapping, but the disease was not cured; and it appeared to me to be a much more fair and just way of appreciating the results of an operation if we tabulated the cases exactly as they occurred. There were a certain number of cases in which the operation was completed, and a certain number in which it was commenced and not completed, and then the results of each were made known. This was also satisfactory as showing exactly what could be done with cases when it was found impossible to complete the operation.

It has been said that it is a great objection to the principle of any operation to admit that anything like ten per cent., or even seven per cent., of cases cannot be completed by a surgeon who has a certain amount of experience in that operation. You could forgive an inexperienced man for beginning an operation which he could not complete; but if a man who has had a considerable experience in an operation cannot tell before he begins whether he can complete it or not, that is an objection to the principle of the operation. If that were a fair representation of the state of the case, it would have some weight; but it really is not. I can scarcely call to mind a case in which, before the operation began, something more than doubt had not been expressed to the patient or her medical attendant. I have felt, after a careful examination of the case, doubtful either what the tumour might be or whether it could be removed without unusual difficulty; and I have said to the medical man in attendance, or the patient, or her friends, "It is impossible to be quite certain what this tumour is"; or, "It is impossible to tell whether it can be entirely removed. We must make an incision, and deal with the case accordingly. Supposing we find the tumour cannot be removed without extraordinary danger, we must

TABLE.—Cases of Exploratory Incision and Incomplete Ovariectomy.

No.	Medical Attendant.	Date.	Age.	Condition.	History, etc.	Result.
1	Dr. Jackson, Southsea ..	1872, November	45	Married	Incision and tapping; 13 pints of fluid removed	Recovered; died July 1875
2	Sir W. Gull, Bart. ..	1873, January	38	Married	Incision and removal of ascitic fluid ..	Death third day; cancer of peritoneum
3	Dr. Brandis, Aix-la-Chapelle ..	1873, January	54	Widow	Incision; cyst emptied ..	Died third day
4	Dr. Richardson, Dartmouth ..	1873, August	43	Married	Part of extra-ovarian cyst excised; rest drained	Recovered; well June 1878
5	Dr. Churchill, Dublin ..	1873, August	40	Married	Part of cyst removed ..	Died fourth day
6	Mr. Cross, Clifton ..	1874, April	30	Single	Incision; cyst emptied; drained; antiseptic injections ..	Died fifty-second day
7	Eastbourne ..	1874		Married	Part of extra-ovarian cyst excised ..	Recovered; well in 1877
8	Dr. Evans, Hertford ..	1874		Married	Incision; peritoneal colloid ..	Died next day
9	Dr. Ridley, Canada ..	1874, July	29	Single	Part of cyst removed; drainage of remainder ..	Recovered after long suppuration; well in 1877
10	Dr. Wood, New York ..		48	Married	Incision; ascitic fluid removed; cancer of peritoneum ..	Died seventh day
11	Dr. Harding, Southsea ..	1874, November	52	Single	Cyst incised and drained ..	Died twenty-second day
12	Mr. Perks, Portsea ..	1875, March	37	Married	Part of extra-ovarian cyst excised ..	Recovered; well in October 1876
13	Dr. Broster, Southampton ..	1875, April	27	Married	Cyst opened; masses of papilloma removed; drained ..	Went to Southampton on the twenty-fourth day
14	Dr. Hemmings, Abingdon ..	1875, July	24	Single	Peritoneal fluid removed ..	Recovered
15	Dr. Brandis, Hanover ..	1875, July	48	Married	Cyst of broad ligament opened and drained ..	Died thirteenth day
16	Professor Simon Thomas, Leyden ..	1875, October	36	Married	Cyst incised and drained ..	Recovered; well in 1877
17	Dr. Mayor, Geneva ..	1875, October	31	Married	Ascitic fluid removed; solid tumour undisturbed ..	Recovered; well in 1877, but had been tapped several times
18	Mr. Goodchild, Ealing ..	1875, December	48	Married	Ascitic fluid only removed ..	Recovered; June 1878, tapped several times
19	Mr. Rowman, Ripon ..	1875, December	40	Married	Cyst incised and drained ..	Recovered, but died a year after; cancer
20	Mr. Pearce, Haverstock Hill ..	1876, January	45	Married	Cyst and part of spleen removed; another cyst tapped ..	Died in an hour
21	Dr. Gaven, Brompton ..	1876, December	49	Single	Incision; two ovarian cysts tapped; adhesions ..	Recovered; died August 1877
22	Sir George Burrows, Bart. ..	1877		Single	Incision five inches; ascitic fluid removed; peritoneal cancer ..	Died fourth day
23	Dr. Howell, St. John's Wood ..	1877, May	44	Single	Ascitic fluid removed; cancer of omentum undisturbed ..	Recovered from operation; died Oct. 1877
24	Mr. Bury, Wisbech ..	1877, May	17	Single	Adherent cyst drained ..	Recovered after long suppuration; well in June 1878
25	Dr. Pollock, Black Rock ..	1877, November	53	Married	Five-inch incision; colloid matter only removed; 19 pints ..	Died fourteen days; obstruction of intestine
26	Mr. Swain, Long Clawson ..	1877, November	33	Single	Adherent cyst, with papilloma emptied ..	Died eighth day
27	Mr. Maurice, Reading ..	1877, November	27	Married	Part of adherent cyst removed; rest drained ..	Went home Jan. 7th, 1878; still weak in March 1878
28	Dr. Bryan, Northampton ..	1878, March	43	Married	Colloid contents of ruptured cyst removed ..	Died second day
29	Mr. Calthorp, Holloway ..	1878, March	35	Married	Incision four inches; solid tumour incised, and serum evacuated ..	Died fifth day
30	Mr. Ceely, Aylesbury ..	1878, May	23	Single	Incision four inches; ovarian fluid removed from peritoneal cavity; ruptured cyst undisturbed	Recovered

be content with simply emptying it." In many of the cases in this table, all that actually occurred in the consultation with the patient or her friends, before the operation was begun. I think there have been very few cases out of the fifty-two in the book, or the thirty in this table, in which that sort of caution had not been expressed beforehand. No doubt there are some cases in which difficulties arise at the time of the operation, or during its performance, which had not been foreseen; but that, I suppose, must occur in every surgical operation. In performing lithotomy, in operating for hernia, unexpected difficulties may arise; but that is not thought to be a valid objection to the principle of the operation. I do not think I need say more about incomplete operations than to repeat that, among the patients on this list, there are some still alive and well, although at the time of the operation all I could do was to empty the cyst and sometimes drain it.

With regard to the results of the operation and the number of patients who recovered, I should say that some years ago I made every patient who recovered promise to write to me at the end of a year, and to write every year on the anniversary of her operation, telling me, if single, whether she had married; if she were married, whether she had had children; and so on. Some few did write, but very few; and, when I was preparing the book published in 1872, I had a circular printed and sent to every patient who had recovered. I put on the circular the "name of the patient"; the "date of the operation"; "present state of health"; if married since, when she was married; if the husband were still alive; births and sexes of children; if there were anything unusual in pregnancy and labour; and then, if the patient were dead, if any friend or relation would fill up the cause and date of death, or add any other information in connection with the operation which as regards the patient might seem important. A great number of these circulars were returned; and the information I got was quite sufficient to show that a number of women who were unmarried at the time of the operation had married since; and many of these and of those married when operated on had had children; some had one, some two, some three, some four, and two had had twins. There was no reason for supposing that the number or the sex of the children was affected by the operation. Nor was there anything in the result after removal of both ovaries which seemed remarkable, except that in three cases there was what appeared to be something like a return to normal menstruation. In most of the cases, when both ovaries were removed, there has been nothing like any return to

menstruation even in young women. Many of these double operations have been performed in women past the age of menstruation; but in several cases young women have had both ovaries removed, and in them there has been no return to menstruation as a rule. In three young women, there has been a periodical return of something like menstruation, if not true menstruation. Beyond this cessation of menstruation, I do not think there is anything special to notice in the condition of the women even if both ovaries have been removed.

Now we come to the questions, What are the results of ovariectomy? how many of the women operated upon are killed by the operation? how many recover from it, and what becomes of those who recover; are they invalids or healthy women? how many of them bear children? is pregnancy or labour, or the sex or the health of the children, affected in any way by the operation? and how far do the lessons taught by ovariectomy influence other operations involving the peritoneum? First, with regard to the proportion of deaths to recoveries, taking my own cases only as a starting-point, of the 500 cases published in my book, 373 recovered and 127 died: a mortality of 25.4 per cent. Of the 300 subsequent cases published in 1873 in the paper at the Royal Medical and Chirurgical Society, 223 recovered and 77 died: a mortality of 25.6 per cent. Since the 800 cases, I have now operated on exactly 100 more, making a total of 900 complete operations. Of the last 100, 83 recovered and 17 died: a mortality of 17 per cent. Adding the whole 900 cases together, we have 679 recoveries and 221 deaths: a mortality of 24.5 per cent. It is satisfactory that in the last series of 100 cases the mortality is the least. This includes every case in which I have completed the operation of ovariectomy either in private practice or in hospital, or in any of the nursing institutions which partake of the character of a hospital or a private house.

I have already told you the number of cases in which I have commenced the operation and not completed it, and I will now simply refer to these facts as proofs of the proposition that ovariectomy more certainly saves life from threatened death, restores a woman more certainly to perfect health, renders her more fit for all the requirements of daily life, than almost any other surgical operation. She can scarcely be said to be mutilated; she may menstruate regularly, and bear children of either sex, or twins, without any unusual suffering either during pregnancy or labour. Lord Selborne, in opening the new

branch of the Samaritan Hospital, entered into a curious calculation, and showed the total gain of life of the 373 survivors of my first 500 operations to be "10,817 years of average healthy life, instead of the 1,492 years of miserable endurance which they might have passed before death without operation". Of the 400 patients operated on since the 500, 306 are cured, making the total recoveries 679. Multiplying this number by 29 years, the average estimated gain of each patient, the total gain amounts to 19,691 years. I submitted the basis of Lord Selborne's calculation to Dr. William Farr, thinking possibly there might be some fallacy which I had not detected. Dr. Farr confirmed its complete accuracy, and it is a very simple piece of multiplication. The average age of the patients was as nearly as possible thirty-eight years. At this period, the Carlisle Tables assign, as the expectation of life for a healthy woman in this country, twenty-nine years; so that one has simply to multiply the number of survivors by twenty-nine. Had the women not been operated upon, it would be a very liberal allowance to estimate their average expectation at four years; and Lord Selborne, speaking of the addition to life to each of the women successfully operated upon, has calculated twenty-five years as clear or absolute gain. He said: "Instead of the four years of declining health and hopeless misery which these women would have had to anticipate, not only those four years, but twenty-five years, which upon the average had been wholly saved to them, were years of restored health, usefulness, and happiness."

PATHOLOGICAL MEMORANDA.

OBLITERATIVE ENDARTERITIS.

THE interesting article on obliterative endarteritis in the JOURNAL of June 29th shows a disposition to abandon the pathological significance of that form of syphilitic arteritis with which the name of Heubner more especially is associated. Whatever be the final outcome of the observations of Friedländer, Koster, and Baumgarten, there seems to be reason, at the present juncture, to avoid a too ready rejection of all the cases of syphilitic arterial disease described of late years. Certainly there are a number of cases in which the evidence of the syphilitic nature of the (primary) arterial disease is of the very strongest.

When a patient dies of syphilitic disease the lesions of which, in a typical form, are strewn throughout the body, and are associated only (if at all) with such other pathological conditions as are evidently of a secondary nature, and when the morbid changes of the arteries have the same forms as the syphilitic lesions in other systems of the body, it is difficult to deny the syphilitic nature of the vascular changes. Of such character were two cases described by myself in the first of a series of papers in the *British and Foreign Medico-Chirurgical Review* (July 1876, p. 161), under the following headings.

CASE I (*loc. cit.*, p. 163).—"Dementia; physical signs simulating general paralysis; headache; epileptiform attacks; transitory hemiplegia; recurrence of the epileptiform convulsions, assuming an excessively violent form, and occurring in rapid succession; death in the 'stalus'. Syphilitic disease of the brain, cerebral arteries, spleen, liver, skin, and testis."

CASE II (p. 174).—"Sudden attack of paresis of articulation and deglutition, and of incomplete right hemiplegia, followed by intellectual and moral deterioration, and by temporary attacks of dysphagia with vaso-motor disturbance. Subsequently, dementia; incomplete right hemiplegia; speechlessness; intestinal torpor; contraction of limbs; extensive disease of cerebral arteries; gumma of left corpus striatum" [and gumma of liver].

But, besides these naked-eye changes, the microscope revealed in both cases a more or less extensive alteration in the minute arteries of the brain. Only the most obvious of the microscopical appearances were described, and that very briefly. Among the less obvious and extensive of the changes noted was an indistinct cellular proliferation in the inner coats of some. The gummata of the large basal arteries were in an advanced stage; and undoubtedly the appearances vary very much with the particular stage of the morbid change at which death happens to take place.

Finally, in the third paper of the above mentioned series (April 1877, p. 444), it was indicated that these cases of syphilitic disease of the cerebral arterioles as well as arteries include many, if not all, of the very cases in which intracranial syphilitic disease most closely simulates general paralysis of the insane; and further experience confirms me in that opinion.

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AN ADDRESS ON SOME EFFECTS OF THE CLIMATE OF TORQUAY.

Delivered at the Annual Meeting of the South-Western Branch.

By C. RADCLYFFE HALL, F.R.C.P.,
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GENTLEMEN,—My first duty is the very pleasant one of giving you all a hearty welcome from myself and my fellow medical men of this town. And in this Torquay is beforehand with me, for she has put on a smiling face to receive you. Were you strangers from the other end of the country, I might feel it right to point out to you the beauties of this neighbourhood and the medical peculiarities of this climate; but, as you are all west countrymen, you know sufficiently well what I could say on this head. I will content myself with occupying your attention for a very short time by saying what I can in reference to the demerits of Torquay in a medical point of view. In a picturesque sense, I need only say, "If you want a proof of that, look around". Now, what do we ever hear at a distance against the climate of Torquay? It is summed up in a word—"It is so relaxing!" How stands the fact? Is Torquay what is meant by relaxing? It is; and it is not. When the wind sets off the sea from the south or south-west, it is so; but, when the winds sets off the land, north, north-west, due west, north-east, and due east, it is not. A word largely governs opinion, particularly a depreciatory word. What, then, is the meaning of this word relaxing? It means a place where a healthy person feels more languid, less energetic, less up to the mark than elsewhere. It means temporarily enervating, but it is often misunderstood to mean permanently debilitating. It cannot be this, for it is in the experience of everyone that any feeling of languor due to the climate of Torquay disappears in twenty-four hours after going a hundred miles inland, and leaves no diminution of strength or vigour behind. And it is not every person in health who complains of Torquay as proving relaxing. Those of robust sanguine temperament, who are apt to err on the side of overenergy, find themselves here in a state of happy and comfortable calm and quiet strength.

But it is not of healthy persons we are now thinking. They may afford to be guided by their feelings of what is most pleasant to them at the onset, and place their residence anywhere. But for the pulmonary invalid this is not so. He ought not to trust to what he feels on a short acquaintance; he must be guided by the practical results of a longer experience. One's feelings on a short acquaintance are often misleading. On the first day of a bright still frost, with a sunny sky, all healthy animals rejoice in the bounding energy they feel to pervade their system. And the pulmonary invalid, as a rule, likes it too. But for how long? For just so long as he does not feel the ill effects of the cold. And how does cold occasion ill effects? By inducing inflammation. For pulmonary invalids, we want a safe, not an exciting, climate. For what is the especial source of danger in pulmonary disease? Inflammation. Whether the case originated in inflammation, as many do, or not—and many do not—yet, in all alike the occurrence of inflammation is what we dread, its persistence is what we oppose, its disappearance what we hail with hope and pleasure. It is inflammation which opposes Nature in her various modes of cure; it is inflammation which quickens the downward progress of the disease; and it is the consequence of unarrested inflammation which kills.

Let us remind ourselves in simple terms what this all-important condition is. When any part of a living body is from any cause unable to nourish itself, it either dies at once or inflames; unable to feed itself, it is unable to discharge its functions; it strikes work. The rest of the organism may be supposed to say: "If you do not fulfil your duties in the economy, we shall either alter you, so that you can again do your work, or remove you. We, the capitalists who supply you with food and power, cannot look upon you as a brick in a house, which may undergo injury whilst the remainder of the structure sustains none, but in this living structure all is so knitted together, so interdependent, that if one component part suffers, all suffer." Now, the commoner causes of inflammation are mechanical injury, the presence of a foreign body, and cold. If you get a thorn in your hand, it divides living texture, and is