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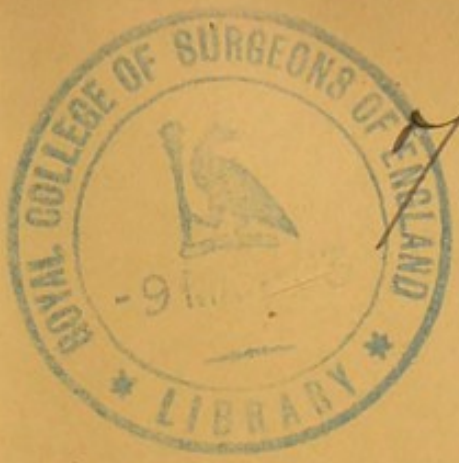

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ON PELVIC ABSCESS.*

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I CONSIDER it a great distinction to have been invited to deliver this inaugural address. When I looked down the list of those who have had a similar honour paid to them in previous years, and remembered how almost every one of them had made it an occasion for adding something of sterling and permanent value to the literature of our profession, I realised, with much misgiving as to my competence for the task, how serious a duty I had undertaken.

In the address on obstetrics and gynæcology which I had the honour of delivering at the recent meeting of the British Medical Association at Newcastle, I spoke of the debt that gynæcology owed to the enterprise of the modern abdominal surgeon, in regard more particularly to the light that had thereby been thrown on the pathology, diagnosis, and treatment of inflammation of the Fallopian tubes. Remembering that my address this evening would be delivered in Birmingham, the city where, for many years, abdominal surgery received its chief impetus, it seemed to me natural and fitting that I should utilise the occasion for calling attention to some of the many *other* directions

* An Address delivered at Birmingham at the opening meeting of the Midland Medical Society, November 2nd, 1893.

in which our knowledge of pelvic disease has recently been much advanced, and in which the advance has been due, if not entirely, certainly very largely, to the teachings of abdominal surgery. The subject I have chosen is pelvic abscess, or, to speak more correctly, pelvic suppuration, in the female.

Until quite recently, all forms of pelvic suppuration were styled indiscriminately pelvic abscess, and our ideas as to their etiology and pathology were exceedingly vague. It was generally believed that there were two forms of pelvic abscess, the one and more common form having its seat in the pelvic connective tissue, the other and rarer form being intraperitoneal, and being located for the most part in Douglas' pouch, where the pus, having in the first instance accumulated in that pouch by the law of gravitation, eventually became encysted by adhesions. The one was held to be the result of cellulitis, the other of peritonitis, both of which were regarded as idiopathic affections capable of being induced either by exposure to cold (especially during menstruation and after parturition and abortion), or by direct injury received either during labour or in the course of surgical manipulations conducted through the vagina. The changes that have been brought about in our views respecting suppuration in general, and pelvic inflammations in particular, have of necessity affected our notions as to pelvic abscess. We now know that suppuration in the pelvis, as in other parts of the body, is always an infective process, and can never have either a purely catarrhal or a purely traumatic origin. Neither cellulitis nor peritonitis can any longer be regarded as an idiopathic affection. Catarrh and injury may be, and often are, factors in their production, but they are not the essential factors. There must always be an infection of some kind. Our knowledge, too, of the *morbid anatomy* of pelvic abscess has received important additions. We now know that the immediate sources of pelvic suppuration are much more numerous than they were supposed to be, and that—although it may be convenient to retain the term pelvic abscess as a specific name for cases of suppuration in the connective tissue of the pelvis

and as a provisional diagnosis in other cases of pelvic suppuration, where the precise locality of the lesion has not yet been discovered—the time has come to discard it as a general term, and to aim, in every case of pelvic suppuration, at a more exact diagnosis than the use of such a term would imply. I am no advocate for pretending to a refinement of diagnosis that is unattainable; but when I see a hospital physician never venturing further in the diagnosis of a skin disease than to call it an "Eruption," and another entering every inflammatory affection of the respiratory tract in childhood under the safe heading of "Cough," and a third publicly objecting to any attempt at increased precision in the classification of pelvic suppurations, and advocating the application of the old term pelvic abscess to them all, I cannot but feel that in this matter of diagnosis modesty and caution may be carried too far.

ABSCESS IN THE CONNECTIVE TISSUE OF THE PELVIS.

The simplest form of pelvic suppuration is that which occurs in the connective tissue, and it is this form to which I should like to see the use of the term pelvic abscess restricted. It will immensely facilitate our study of this affection if we recognise, once for all, that inflammation of the connective tissue in the pelvis differs in no way from inflammation of the same tissue in other parts of the body which are more accessible to sight and touch. I was glad to see the attention of gynæcologists very forcibly called to this point by Professor William Keiller, of the University of Texas, in the *American Journal of Obstetrics* for September, 1893. Primary cellulitis, as we know it in other parts of the body, is always an acute affection, and is always septic in its origin. Professor Keiller takes, as an example, the ordinary clinical course of a septic wound of the palm of the hand. The process in pelvic cellulitis is precisely analogous. "The cellular area of the pelvis is shut off from the perineum by the pelvic fascia. This strong aponeurosis is attached to the pelvic wall between the pubic bones and bodies of the ischia, along that thickening of the obturator fascia known as the white line.

From this it passes as a continuous sheet over the levator ani and coccygeus to the vagina in front, and the rectum and coccyx behind. Behind the pubic symphysis it is closely blended with the vaginal orifice under the name of the triangular ligament. All inflammatory exudation connected with the female genitals above the vulva takes place above this strong fascia; and, as in a septic wound of the palm of the hand, the exuded serum or lymph is forced to find accommodation on the back of the hand by the strong palmar fascia and the way in which the skin is bound to it, so the pelvic fascia forces the exuded fluids in septic wounds of the deeper genitals to find accommodation in the loose tissue above it." This cellular area has for its upper boundary the peritoneum, which can be readily stripped from the whole of the pelvis except in the following situations—viz., the anterior surface and sides of the rectum, the upper part of the posterior wall of the vagina, the posterior surface and fundus of the uterus, the anterior surface of the body of the uterus, and the posterior surface of the bladder. As all these parts where the peritoneum is firmly attached are situated more or less in the middle line, it follows that the cellular area of one side scarcely communicates with that of the other, except along the tract which lies between the upper part of the cervix and the bladder, so that cellulitic exudations are mostly limited to one side. The most common source of such exudations is septic absorption through lacerations of the cervix and of the upper part of the vagina occurring during labour, the latter accident accompanying the use of the forceps much more frequently than is supposed. I have over and over again, in cases of pelvic cellulitis seen in consultation, found wounds of the vagina that had been entirely unsuspected by the medical practitioner in attendance, and that had evidently been caused by the projecting edge of one of the blades of the forceps. Such wounds, if they remain aseptic, readily heal; but it often happens that septic matter finds its way into them, and then pelvic cellulitis results. Only less important than parturition, in respect to the etiology of this affection, are the various surgical

measures practised on the vagina and cervix. Before the necessity of rigid aseptic precautions was understood and generally acted upon, the most trifling surgical proceedings in these parts were apt to be followed by an attack of cellulitis. With regard to abortion, I am inclined to believe that septic infection following abortion seldom, if ever, takes the form of pelvic cellulitis, for the simple reason that there being no over-distension of the cervix or wounding of the vagina by the use of instruments, injuries to those parts are less likely to occur. This impression is abundantly borne out by my own experience. In examining the records of St. Thomas's Hospital for the past five years, I find that during that period there have been twenty-two unequivocal and uncomplicated cases of cellulitic abscess in the pelvis. Of these not a single one followed abortion. Twenty-one were the result of parturition, and the twenty-second — the cause of which was not discovered — occurred in the fifth month of pregnancy.

In connection with this subject of abscess in the pelvic connective tissue, Prof. Keiller very properly calls attention to the rôle played by the lymphatic vessels and glands. He points out that nothing is more common, as the result of a neglected septic wound of foot or hand, than to have a suppurating gland in the groin or axilla, and asks if it is "to be expected that the pelvic glands will always escape in vaginal or cervical wounds?" I feel as certain as he does that they do not escape, and I can call to mind several cases where, from the position of the abscess, I have no doubt that there was suppuration of the hypogastric glands—those, namely, which surround the iliac vessels at the sides of the pelvis and receive the lymphatics from the cervix and the upper three-fourths of the vagina. "Of course," as Prof. Keiller says, "we cannot palpate a large tender gland" in such a situation, "and for this reason we are very apt to forget its presence."

Where do cellulitic abscesses in the pelvis usually point? In the great majority of cases the spread of the inflammation is in a forward direction, from the base of the broad ligament, where it

starts, to the connective tissue lying beneath the peritoneum which forms the floor of the anterior pelvic fossa, stripping up the peritoneum where it becomes reflected on to the anterior abdominal wall and forming a broad strip of induration along and parallel with the upper border of Poupart's ligament. When suppuration occurs, the skin over the induration gradually becomes œdematous, and pointing usually occurs at a spot almost immediately above the centre of Poupart's ligament. It will be seen from the accompanying table that, of the twenty-two cases of uncomplicated cellulitic abscess treated during the

TABLE I.

CELLULITIC ABSCESS IN PELVIS, 1889-93.

Pointed above Poupart's ligament,	Right side	9	
	Left side	9	
			18
Pointed over iliac crest			1
Opened before pointing occurred; abscess situated on posterior wall of pelvis			3
			22

last five years in the women's ward at St. Thomas's Hospital, the abscess pointed above Poupart's ligament in eighteen, nine times on the right side and nine times on the left. The inflammation is often described as "following the course of the round ligament," but I know of no evidence to shew that the round ligament plays any part in determining the course of the inflammation. The study of frozen sections has taught us that, at the end of pregnancy, the broad ligaments have been drawn upwards by the growing uterus, so that the base of the ligament is at the brim of the pelvis, and the peritoneum no longer descends laterally into the pelvis at all. The whole of the lateral space below the pelvic brim, is, at this period, occupied by cellular tissue, the quantity of which has become enormously increased (see "Barbour's Sectional Anatomy of Labour," pp. 16 to 18). There is therefore no need to invoke the intervention of the round ligaments to account for the inflammation passing forwards from the base of the broad ligament to the tissues just above Poupart's ligament. These parts already lie in close juxta-

position and the extension of the inflammation from one to the other really needs no other explanation.

In exceptional cases the inflammation passes round to the loose tissue in front of the bladder and the abscess points above the symphysis, or, mounting up between the anterior parietal peritoneum and the sheath of the rectus, points at the umbilicus. In three of the twenty-two cases tabulated the abscess formed at the back, instead of at the front, of the pelvis, probably owing to implication of the hypogastric glands, and was opened by making an incision above the anterior superior iliac spine and dissecting inwards, beneath the peritoneum, to the pelvic brim. It is probably in cases of this kind that the suppuration occasionally extends upwards along the subperitoneal tissue of the iliac fossa and even into that of the loin, pointing either at the iliac crest, as in one of the cases in the table, or above it. The text-books speak of the pus, in such cases, following the course of the psoas muscle, but when matter burrows along the psoas it is not from a cellulitic abscess but from dead bone. It is along the blood-vessels and other parts, such as the ureter, that actually lie *in* the connective tissue of the pelvis, and are accompanied by a prolongation of it as they enter and leave the pelvis, that the pus finds its way.* This is not only true of the cases in which suppuration extends to the iliac fossa and the loin, but also of those where the pus leaves the pelvis by the sciatic notch, or, passing beneath Poupart's ligament, points in Scarpa's triangle. In the former case it follows the course not of the obturator tendon but of the sciatic and gluteal vessels, and, in the latter, it is the femoral vessels, and not nerve or tendon, as is sometimes stated, that direct the course of the abscess.

It is commonly stated that cellulitic abscesses frequently burst into the rectum, the vagina, and the bladder. This statement appears to me to rest on very slender foundation. Many of the cases quoted in its support belong to an era when little

* See Anderson (W.) and Makins (G. H.) "The Planes of Subperitoneal and Subpleural Connective Tissue, with their Extensions." (*Journal of Anatomy and Physiology*, vol. xxv., part 1. Oct., 1890, p. 78.)

was known of the pathology of pelvic inflammation, and on carefully reading them in the light of our present knowledge it is easy to see that at least a considerable number reported as cellulitic abscesses were really cases of intra-peritoneal suppuration originating in suppurative disease either of the tubes or ovaries. This is notably true of a case of my own, published twenty-two years ago, which, though I have now no doubt whatever as to its having been a case of intra-peritoneal suppuration from acute tubal disease, was described, in accordance with the crude gynæcological pathology of the time, under the head of pelvic cellulitis, and takes its place in Delbet's valuable monograph as a well-authenticated instance of the spontaneous opening of a cellulitic abscess into the rectum. At the same time it is only fair to say that there does not appear to be any anatomical reason why cellulitic abscesses should not occasionally discharge themselves into the rectum, the vagina, and the bladder, and that some of the cases in Delbet's collection appear to be genuine examples of such an occurrence.

The next table shews, in regard to the twenty-one cases in which cellulitic abscess followed parturition, the period that elapsed between delivery and the pointing or opening of the abscess. It will be seen that, judging from the small number of cases here recorded, the usual time for the abscess to point is between the seventh and the twelfth week. The earliest period at which pointing occurred was five weeks, the latest fourteen.

TABLE II.

PERIOD AFTER DELIVERY WHEN ABSCESS POINTED OR WAS OPENED.

Over	5	and under	6	weeks	1	Over	10	and under	11	weeks	2
„	6	„	7	„	4	„	11	„	12	„	2
„	7	„	8	„	2	„	12	„	13	„	1
„	8	„	9	„	3	„	14	„	15	„	1
„	9	„	10	„	5						—
								Total		..	21

The treatment of cellulitic abscess in the pelvis—*i.e.*, of true pelvic abscess—is summed up in two words—incision and drainage. Abdominal section is here entirely uncalled for. The abscess should be opened as soon as ever fluctuation is

detected or there is the faintest indication of pointing. In ordinary cases the drainage tube is only required a very few days. Unlike other forms of suppuration in the pelvis, cellulitic abscess, in my experience, tends, when once the matter has been set free, to complete and rapid recovery. I have never seen troublesome sinuses form, and the tendency to lateral displacement of the uterus from subsequent contraction of cicatricial tissue has, I believe, been much exaggerated. This affection offers no bar to subsequent conception, and when pregnancy again takes place, its normal course is not interfered with. All this is in strong contrast to what occurs after other forms of pelvic suppuration.

I have had no experience of cellulitic abscesses pointing in the vagina, and therefore have never had occasion to open one there. Frequently I have found, in cases of pelvic inflammation, soft fluctuating swellings depressing the vaginal vault both laterally and posteriorly; but such swellings have invariably proved to be other than cellulitic; and I have often had cause to be thankful that I had not been tempted to open them from below.

When I said just now that abdominal section was never required in cases of cellulitic abscess, I had not forgotten Mr. Lawson Tait's historical paper read before the Royal Medical and Chirurgical Society in 1880. The cases of pelvic abscess, however, that were described in that paper were not cellulitic, but were examples, apparently, of suppurating hæmatoma of the broad ligament, and, as such, do not come within the category of which I have been speaking. They belong, rather, to the group with which I come now to deal, and of which I agree with Mr. Tait in believing abdominal section to be the only proper treatment.

OTHER FORMS OF PELVIC SUPPURATION.

Passing now to other forms of pelvic suppuration, it is desirable, in the first instance, to obtain some idea of their relative frequency. With that object I have tabulated 83 cases

in which I have performed abdominal section and found suppurative disease within the pelvis. The number is not large, but it is sufficient to give some indication of the main sources of intra-pelvic suppuration and of their relative frequency. The 83 cases may be classified as follows :—

TABLE III.

Purulent salpingitis (including pyosalpinx)			37
Purulent salpingitis, with suppurating cyst of ovary (eight communicating)			13
Suppurating cyst of ovary			17
Tubercular disease : of tube	3		
of ovary	3		
of tube and ovary ...	1		
		—	7
Disease of vermiform appendix			1
Suppurating retro-peritoneal cyst			1
Suppurating lumbar gland			1
Undetermined			6
			—
			83

From this table it is abundantly clear that purulent salpingitis is much the most frequent source of intra-pelvic suppuration. It was met with in upwards of 60 per cent. of the cases. In 44½ per cent. no other suppurative disease existed, and in the remaining 15½ per cent., although associated with suppurating cyst of the ovary, there was strong evidence of the suppurative change in the ovary being secondary to the purulent inflammation of the tube. Having so recently spoken of the pathological importance of the Fallopian tubes in connection with pelvic peritonitis, I need not on this occasion further insist upon it. I may, however, point out that the reason why there is no separate mention, in the table, of cases in which encysted intra-peritoneal collections of pus were found is that such collections are almost invariably a mere complication of purulent salpingitis. We are in the habit of thinking of suppurating Fallopian tubes as closed sacs of pus, the pus being pent up in the tube by occlusion of the abdominal ostium. But it must be remembered that in the earlier stages of purulent salpingitis the fimbriated ends are open, and the pus is free to discharge itself

into the peritoneal cavity. In a paper recently read before the Obstetrical Society of London I described a case of gonorrhœal salpingitis in which the fimbriated ends of both tubes were open, and were discharging their purulent contents into Douglas's pouch, which had become closed in by adhesions. The pouch formed a little reservoir of pus, fed by two supply pipes and with no outlet. Had the case been allowed to go on, no doubt ulceration into the rectum would have taken place. It was particularly interesting to see one of these intra-peritoneal collections of pus in actual process of formation.

SUPPURATING CYSTS OF THE OVARY A FORM OF PELVIC SUPPURATION FREQUENTLY UNRECOGNISED.

Next to purulent salpingitis the most common form of pelvic suppuration is suppurating cyst of the ovary. The frequency with which acute pelvic peritonitis is due to the presence of small suppurating ovarian cysts—which, owing to their size, had not previously been known to exist—is, I believe, not generally recognised. At any rate, it has been quite in the nature of a revelation to me as case after case has occurred in the course of my own work. I published in the Hospital Mirror of the *Lancet* of July 2nd and 9th, 1892, a series of six such cases, all of which happened to be under my care at one time. In two of them the disease was bilateral and the cysts of considerable size; yet not even in these had any abdominal swelling been observed previous to the severe attack of pelvic peritonitis for which the patient sought admission to the hospital.

When peritonitis occurs in a patient with an ovarian cyst large enough to attract attention as a distinct abdominal swelling, it is easy enough to recognise that the peritonitis is due to inflammation of the cyst; but when such an occurrence takes place in a patient not known to have ovarian disease, the source of the inflammation is almost certain to remain unsuspected, and the swelling subsequently observed is almost equally certain to be regarded as purely inflammatory, and unconnected with pre-existing disease. These cases are invariably sent into the

hospital as cases of acute pelvic cellulitis. I feel sure that even when the abdomen has been opened and the suppuration discovered, the true nature of the case has not always been made out. Many instances in which a collection of pus has been opened and the cavity drained, and in which the operator has been unable to satisfy himself as to the precise seat of the suppuration, have, I have little doubt, been cases of suppurating ovarian cyst. The matting together of adjacent parts is, of itself, sufficient to introduce an element of confusion, and to render recognition difficult.

But there is one condition that contributes to increase this difficulty more than any other, and that is, the tendency of an ovarian cyst, when it becomes inflamed while still small enough to lie in the pelvis, to contract adhesions to the broad ligament, and, in the course of its enlargement, to draw the stretched and thickened broad ligament over it until its anterior surface is completely concealed by it as by a hood. Until an operator becomes familiar with this phenomenon the condition that presents itself to his eye and touch is exceedingly puzzling and misleading. What often happens is that, deep-seated fluctuation being detected, a trocar is passed *through the broad ligament* into the suppurating cyst behind it, and the cyst is emptied and drained under the impression that it is a collection of pus either in the broad ligament or behind the parietal peritoneum. Operators who have had frequent occasion to open the abdomen in cases of obscure pelvic suppuration will, I feel sure, recognise the truth of this description. The proper treatment of such cases is not to tap the cyst, but, having obtained access to it by the careful and patient separation of adhesions, to enucleate it, if possible, entire, until there remain only the normal attachments, which can then be treated as a pedicle and the whole cyst removed.

With regard to the cause of the suppuration in these cysts, the evidence is strongly in favour of the view that in the great majority of cases the suppurative change in the ovary is secondary to purulent salpingitis. Of the thirty cases in which

suppurating ovarian cysts were discovered it will be seen from the next table that active purulent salpingitis was found in thirteen and chronic salpingitis in twelve.

TABLE IV.

SUPPURATING OVARIAN CYST (INTRA-PELVIC).

Directly communicating with suppurating Fallopian tube ...	8
Adherent to suppurating Fallopian tube	5
Adherent to inflamed Fallopian tube	12
Adherent to ulcerated vermiform appendix	1
Source of infection undetermined	4
	30

In the latter the conditions of the parts around shewed that the tubal inflammation though now chronic and comparatively quiescent had originally been acute and severe. The fire had here, as it were, died out, though in the neighbouring structures, to which the flames had extended, it was still raging. Thus 83 per cent. of the cases of suppurating ovarian cyst were associated with salpingitis If it be asked why may not the tubal disease be secondary and the ovarian primary, I reply that if that had been the case one would have expected the mucous lining of the tube to be the last part affected and the least; in other words, one would have expected evidence that the inflammation of the tube had passed from the peritoneal coat inwards rather than from the mucous coat outwards. In eight instances the suppurating tube and the suppurating ovarian cyst were, at the time of operation, in direct communication owing to ulceration of the cyst wall and perforation into the adherent tube. Whether the cystic degeneration in the ovary ever itself begins as an indirect result of inflammatory changes involving the outer coat of the ovary I cannot say; but certainly, in the majority of cases, it is much more likely that there already existed a small cyst, the contents of which became infected from the adjacent tube and underwent suppuration; and that under these circumstances the cyst grew so rapidly as to be easily mistaken for a large abscess in process of formation. Of the five remaining cases of suppurating ovarian cyst, in one the cyst had evidently become infected from a diseased vermiform appendix; whilst

in the remaining four the source of the suppuration was not discovered. It is of course possible that in these the cysts became infected from their propinquity to the rectum.

To the remaining cases of intra-pelvic suppuration enumerated in the table, I propose only to allude very briefly. The subject of tubercular disease of the uterine appendages—of which there are seven cases on the list—is one of extreme interest, but is much too large to be adequately dealt with on the present occasion. I would merely say, in passing, that when the disease is limited to these parts, or when the only other manifestation of the disease is miliary tubercle of the peritoneum, removal of the diseased appendages is not only a justifiable operation, but is frequently attended with the most satisfactory results. The female pelvis is one of the situations where we are happily able, when the condition has been discovered in time, to rid our patients of the disease before it has become a focus of general tubercular infection.

The case in which an intra-pelvic suppuration was found to be due to a diseased appendix vermiformis is, of course, one that does not properly come within my province as a gynæcologist. It happened, however, that the acute attack of peritonitis for which the patient was admitted occurred a few days after parturition, and was naturally thought to be connected with that process. As it is only under exceptional circumstances that such cases come under my care, it is obvious that my individual experience affords no guide to a correct estimate of their relative frequency.

The six cases in which the seat of the suppuration was not definitely made out occurred in the earlier part of my work, when, having not yet attained the boldness that comes of experience, I was content to empty and drain any deep-seated collection of pus in the pelvis without attempting to separate and remove the suppurating organ.

FISTULÆ AS A COMPLICATION OF PELVIC SUPPURATION.

I propose to devote the remainder of the time at my disposal to a consideration of those cases in which collections of pus

within the pelvis have burst into the rectum, the genital canal, or the bladder, and in which, the opening being insufficient and the evacuation of the pus consequently incomplete, a sinus remains, through which there is a constant or intermittent purulent discharge. From amongst a number of such cases that have come under my observation I have selected for mention a single example of each of the main varieties of this form of fistula, beginning with the most common one—that, namely, which occurs as the result of the bursting of a collection of pus into the rectum.

Case 1. A woman, aged 35, who had been in good health all her life, and was entirely unaware that she had a tumour of any kind, was attended in the Maternity Department of St. Thomas's Hospital in her eighth confinement. The presentation was an occipito-posterior, and, the head was arrested above the brim. After failure with the forceps, delivery was easily effected by version. On the sixth day the temperature, which had hitherto not exceeded 99·2° F., rose to 100·2° F. The patient had no pain of any moment until the seventeenth day, when she complained of a dull aching pain in the lower part of the back and the outer part of the left thigh. There had been no rigor, or sickness, or headache, or constipation, but the patient was losing flesh ; her appetite was poor ; and she complained of much thirst. On the nineteenth day there was noticed for the first time some swelling in the abdomen. The temperature, which had been gradually rising for a fortnight, was now 103°. Accordingly, on the following—*i.e.*, on the twentieth—day the patient was admitted into the hospital.

The note on admission describes her as thin, pale, and sallow. The chest sounds were normal. The abdomen was irregularly distended. The uterus reached to within three inches of the umbilicus, and was pushed forwards so as to form an obvious projection of the anterior abdominal wall. Both uterus and bladder were drawn upwards so as to lie entirely above the pubes. On deep palpation, behind and above the rounded upper margin of the uterus could be felt a swelling, imparting to the hand the sensation of a tense cyst.

On vaginal examination, a centrally-situated swelling, continuous with that felt behind the uterus in the abdomen, was found to occupy the hollow of the sacrum, distending the pouch of Douglas. The swelling was of unequal consistence, and in one part gave a sense of fluctuation. The temperature ranged from 99° F. in the morning to 101° F. in the evening. The urine was healthy.

It was thought at first that the swelling might be a hæmatocele, but when the patient had been nearly three weeks under observation, a large quantity of very fœtid pus was passed by the rectum.

The temperature at once fell to normal, and next day there was a marked diminution in the size of the swelling. Pus continued to be passed with each evacuation for four days. After an interval of six days the temperature again rose and the size of the abdominal swelling became evidently increased. Next day there was a further escape of pus from the rectum, and this continued, without diminishing the temperature, for four days, when abdominal section was performed. The swelling proved to be a suppurating dermoid cyst of the right ovary. The cyst was everywhere adherent, and the process of separating and removing it was one of extreme difficulty, occupying two hours and a half. Notwithstanding the utmost care some of the fœtid contents of the cyst escaped into the abdominal cavity. The peritoneum was subsequently flushed with hot boracic acid solution and a drainage-tube was inserted at the lower angle of the incision.

The cyst contained a compact mass of hair 4 ins. by 3 ins., some pieces of bone, and, in a separate loculus, 28 fluid ounces of thick yellow fluid which solidified on cooling. A direct communication existed between the cyst and the right Fallopian tube, which was nine inches in length and greatly thickened, and was in a state of acute suppurative inflammation. The cyst had also opened by ulceration into the rectum.

Convalescence was somewhat protracted, but no pus was again seen in the evacuations, and none of the contents of the bowel

ever escaped through the wound. The patient left the hospital well in ten weeks.

It is now upwards of two years since the operation, and the patient, whom I saw a fortnight ago, remains perfectly well.

The next case is one in which a sinus existed in the vault of the vagina for eight months, and was found at the operation to communicate with one of a series of small suppurating cysts of the right ovary. It is of special interest, (1) as being a typical example of the cases that have continually been described by observers who do not operate as instances of cellulitic abscess bursting into the vagina; and (2) as affording an unanswerable argument in favour of dealing with such cases by abdominal section rather than by enlarging the sinus from below. The case has already been published in detail,* and I shall therefore be content with giving it here in abstract.

Case 2. A young married woman, aged 22, was delivered of her first and only child at the age of 19. For about twelve months after the labour she suffered from pain of a constant character, but not always equally severe, in the right iliac region. She then remained well for some few months, when the pain returned; and one day, whilst seated in a chair, she felt a sudden discharge from the vagina. The discharge was thick, fœtid, yellow in colour, and very profuse. This occurred about eight months before she came under my care. The discharge had continued, with short intervals, during the whole of this time, but since the first day had not been offensive. Acute symptoms set in a week before her admission. On vaginal examination, the uterus was found to be in normal position, the cervix being fixed. The pouch of Douglas was occupied by a hard rounded mass, extending further to the right side than to the left. The vaginal roof on the right side was slightly depressed. There was dense hardness in the tissues at the posterior vaginal reflection and immediately in front of the cervix. At the upper part of the posterior vaginal wall there was a small opening, the size of a pea, with indurated margins.

* Obst. Soc. Trans., Vol. 34 for 1892, p. 387.

The diagnosis was that of vaginal fistula communicating with the inflamed and suppurating right uterine appendages.

Abdominal section was performed. The pelvic viscera were densely matted by old adhesions. The broad ligaments were hard, rigid, and thickened. A soft oblong mass, consisting of the right ovary and Fallopian tube, dipped down into Douglas's pouch, where its dense adhesions were separated with difficulty. On examination, the diseased ovary was found to measure 2¼ in. by 1¾ in., and to consist of a number of small inflamed cysts, many of them full of pus and all with hyperæmic walls. An opening large enough to admit a goosequill, and surrounded by granulation tissue, was found on that part of the surface of the ovary which had lain most deeply in the pelvis. This opening communicated directly with one of the abscess cavities in the substance of the ovary, and pus was seen exuding from it. The right tube was attached to the ovary, and was elongated. On section, its canal was found to be empty and its lining membrane to be healthy.

Five weeks after the operation the patient left the hospital well. There had been no further purulent discharge from the vagina. Ten months later no swelling could be detected, on vaginal examination, on either side of the pelvis. Menstruation was regular, and, except for occasional attacks of pelvic pain unaccompanied with rise of temperature, the patient felt well and strong.

Had the treatment here consisted of enlarging the sinus in the posterior wall of the vagina, only one cyst would have been laid open, and the patient would have been left with several others to give trouble later on.

The attacks of pain described by the patient as having occurred at intervals since the operation are probably to be explained by intestinal or omental adhesions at the site of operation.

The next case, like the first that I related, proved to be a suppurating dermoid of the ovary, situated deeply in the pelvis, but, instead of ulcerating through into the rectum, it opened into

the cervix uteri, resulting in a fistula in that situation. I published the case in full in a paper in the 17th volume of the St. Thomas's Hospital Reports, and shall here merely give an abstract of it.

Case 3. A married woman, aged 36, was admitted into hospital nineteen weeks after her fourth confinement. Her first three labours had been natural: the last one had been very difficult, delivery having been accomplished by the use of forceps, and then only after prolonged effort. She became feverish soon afterwards, and had much vomiting. The lochia were arrested. A fortnight after the labour a purulent discharge took place from the vagina. This went on for a few days, when, the flow not being very free, an opening felt on making a vaginal examination was enlarged by the medical attendant. The purulent discharge continued for thirteen weeks, gradually diminishing in quantity. It then suddenly became more profuse and very offensive, and the opening was again enlarged. Not long after this a quantity of horribly offensive pultaceous material passed, together with a quantity of hair three or four inches in length. This offensive discharge went on up to the time of her admission. The patient had endeavoured to occupy herself in the house, but found that she was becoming thinner and weaker, and that she was never safe from a sudden outburst of ill-smelling discharge. An abdominal swelling had been noticed for the first time about six weeks after the confinement.

On admission the patient, who was sent in as a case of pelvic cellulitis, was pale, wasted, and very ill. She had a rounded tumour in the right iliac region, reaching to the level of the umbilicus. The posterior fornix of the vagina was obliterated, the finger on entering the vagina passing directly into the cervix uteri. On the inner and posterior wall of the cervix there could be felt a lacerated depression, such as would be caused by the passage of a moderate-sized trocar. No opening was discoverable in the vaginal wall. There was a hard rounded mass in Douglas's pouch, depressing the vaginal roof.

On opening the abdomen the swelling proved, of course, to

be a suppurating dermoid of the ovary. The tumour was carefully and with much difficulty detached all round, a quantity of highly offensive pus flowing from the vagina during the manipulation. Before separating the adhesions in the neighbourhood of the perforation, the pedicle was divided, in order that the tumour might, after separation, be lifted quickly out, and the inevitable soiling of the pelvis from the escape of the cyst contents reduced to a minimum. As the tumour was removed a gush of highly offensive gas escaped with a distinct whiz. The peritoneal cavity was repeatedly douched, and after the abdomen had been closed and the patient had rallied a little the vagina was thoroughly douched with hot boracic lotion.

The convalescence was somewhat delayed by suppuration in the pelvis, but the patient was able to sit up in bed in three weeks, and at the end of six weeks she left the hospital well. Five weeks later she presented herself looking remarkably well.

This case, like the first, is an instance of suppurative inflammation of an unsuspected ovarian cyst, closely following a difficult labour. It is easy to understand how readily the true nature of such a case may be overlooked. The probability is that, in this latter case, some laceration of the posterior wall of the cervix took place during delivery, opening up a channel by which septic infection could easily reach the tumour, which had no doubt been rendered specially susceptible owing to the bruising it had recently undergone.

The next and last case that I shall relate is to my mind the most interesting of all. It was sent into the hospital as a case of pelvic cellulitis following influenza and complicated with abscess which had burst into the bladder.

Case 4. The patient, a woman aged 32, had been married nine years but had never been pregnant. She had had an attack of inflammation in the right side of the lower part of the abdomen three years previously, the attack having been preceded for a few days by a yellow vaginal discharge. After this she had remained well until six months before her admission, when she had what was supposed to be an attack of influenza, with

shivering and perspiration but no pain. She kept her bed for a fortnight and then went into the country. Whilst there, she noticed some thick yellow matter in the urine, which had continued to appear ever since, that is, for a period of five months, the daily quantity being estimated by the medical attendant to average about half a fluid ounce. There had been frequency of micturition but no dysuria. The general health had been but little affected. Menstruation had been regular. She had suffered pain from time to time in the right iliac region, but this had never been very severe.

On examination under anæsthesia, the uterus was found to be of normal length, the canal being directed to the left. On the right side of the pelvis a large, hard, uneven, roughly globular mass was felt, depressing the vaginal roof and extending upwards to the level of the anterior superior iliac spine. A sound introduced into the bladder was prevented by the swelling from passing beyond a very short distance in the middle line, but passed easily to right and to left of it posteriorly. The urine contained a varying quantity of pus.

It was evident that there was chronic suppuration of the uterine appendages (probably, from the size of the swelling, of both tube and ovary), and that there was a sinus communicating with the bladder. I had not yet had occasion to operate upon a case of this kind, and although I saw no other satisfactory way of dealing with it, I undertook the operation with considerable misgiving.

However, on the 8th of December of last year I opened the abdomen. After separating and drawing aside the omentum, which completely concealed the contents of the pelvis, the mass was easily seen occupying the right and central portions of the pelvis, deep down. It was covered by peritoneum, and there did not for some time seem to be any possibility of finding a break in the apparent continuity of the covering of the mass with the peritoneum of the pelvic walls. At length it was found possible to insinuate a finger behind and to the right of the uterus, and so to commence the work of separation. The

thickened right broad ligament had been drawn over the anterior surface of the diseased parts, and dipped down superiorly where it was adherent to the omentum and pelvic wall. These adhesions having been separated, access was obtained to the mass beneath, and, with the fingers of an assistant in the rectum to serve as guide, separation was slowly and carefully effected. The mass, when removed, proved to consist of the inflamed right Fallopian tube and a suppurating cystic ovary three inches in diameter. The firmest adhesion was in the neighbourhood of the fimbriated end of the tube. When this was separated, a quantity of soft inflammatory *débris* was set free. The tube was dilated, and its mucous membrane congested and œdematous. No pus was present in its canal. The ovary was removed without rupture. Its surface was convoluted like that of a tomato. On its under surface there was a small opening, from which blood-stained purulent fluid oozed on pressure, and which probably represented the aperture of communication with the bladder. On section, it was shewn to contain two separate cysts, each of them filled with purulent fluid of a brick-red colour, and without ill-odour. One of the cysts was surrounded by indurated tissue ⅛ in. thick. The bladder was deep down, quite out of sight and out of reach, so that any attempt to close the opening in its wall was entirely out of the question. No urine escaped, and very little pus appeared to have exuded into the pelvis during the operation. It was thought prudent, however, to wash out the pelvis well with hot boracic solution. The uterus had by this time moved to its normal position in the middle line, and perched on the fundus was the normal and adherent left ovary. The left tube was adherent but apparently free from disease. On passing a catheter, a drachm or two of blood-stained purulent fluid escaped from the bladder. A drainage-tube having been inserted, the incision was now closed.

The urine drawn off up to midnight contained pus and blood. The bladder was at first emptied by catheter every two hours to prevent distension. Next day the interval was prolonged to

three hours, and on the fourth day to four hours. The discharge through the drainage tube at the first dressing was turbid, and contained leucocytes. It then became chiefly serous; but later it again became purulent, though never urinous. There was some cystitis, with alkaline urine, from the fourth to the tenth day, when the urine became natural. The patient was able to sit up on the sixteenth day, and left the hospital looking stout and well at the end of two months. Notwithstanding that the general condition was excellent, there continued to be a little suppuration from the lower angle of the wound for six months, when the sinus finally closed The patient has presented herself since from time to time, and when I last saw her, a month ago, she was in perfect health, and menstruating regularly.

I have narrated these cases with two objects specially in view. The first was to shew that when pelvic suppuration is complicated by internal fistulæ, the suppuration is not cellulitic however much it may simulate it, but is due to intra-pelvic disease that can only be properly dealt with by abdominal section. The second object I had in my mind was to shew the feasibility, even in the most unpromising cases, of complete removal of the disease, and to urge the superiority of that method of treatment over the mere emptying and draining of the suppurating cavity and the stitching of the edges of the sac to the abdominal incision.

I am painfully conscious that in offering the foregoing remarks to my professional brethren in Birmingham and the Midlands, I am addressing many who have had a far larger experience than I in the treatment of the diseases to which they refer, and before whom it would be much more fitting that I should appear in the capacity of learner than of teacher. Nevertheless I trust they will appreciate my effort to prove to them that the example they have set, in endeavouring in spite of much opposition to advance the department of medicine with which I am more especially identified, has not been altogether lost even upon the benighted Londoner.

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