AN ADDRESS ON CHRONIC DISEASE OF THE UTERINE APPENDAGES.

WITH
A TABLE OF THIRTY CONSECUTIVE CASES
TREATED BY ABDOMINAL SECTION.

Read at a Meeting of the Medical Society of London.

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MR. PRESIDENT AND GENTLEMEN,—When asked by our energetic senior Secretary to read a paper before this Society it occurred to me, after some consideration, that this subject would be a good one, inasmuch as it is of the greatest importance, and one about which—especially with regard to diagnosis and treatment—there is at the present moment much difference of opinion. For convenience of reference I have arranged all the cases in a tabular form (see next page):—

Let us consider, *seriatim*, the different diseases of the uterine appendages included under the title of this paper. It is obviously unnecessary to touch upon large tumours which rise up out of the pelvic cavity, as nowadays almost everyone agrees that their proper treatment is by abdominal section. Such, however, is unfortunately not the case with diseases which give rise either to small pelvic tumours or to none at all, but which often entail intense suffering, which are sometimes overlooked and about the treatment of which there is (unluckily for the sufferer) a great diversity of opinion.

CHRONIC SALPINGITIS.

Chronic salpingitis is in the majority of cases due to extension of catarrhal or purulent endometritis; sometimes, however, it is doubtless secondary to a pelvic peritonitis. Each Fallopian tube consists, as is well known, from without inwards of peritoneum, circular and longitudinal muscular fibres, with a mucous membrane which is lined by a layer of columnar ciliated epithelium, and thrown into numerous longitudinal folds or plicæ. Glands have been described as present, but there is a complete absence of them; probably the folded appearance of the mucous membrane led to the error. The changes which take place in the tubes when subject to chronic inflammation are well shown in a drawing taken from the beautiful plates of Wyder, of Berlin. The mucous and muscular layers are hypertrophied. The folds of the mucous membrane do not show the normal complicated appearance. Single papillary elevations are seen separated from one another by glandlike invaginations of the mucous membrane, some shallow, some deep. The papillæ are completely bared of epithelium, but it may still be seen in the recesses between the folds. On the surface of the mucous membrane is a zone of closely packed round cells like granulation tissue, whilst beneath this the deeper portion of the mucous membrane is specially characterised by the presence of a large number of spindle cells. Thick walled vessels are present in great numbers in the wall of the tube. I believe a salpingitis may exist like this for an indefinite period, the fluid exuded gradually making its way through the patent uterine end into the uterine cavity; but what happens far more often is this—the inflammation extends to the fimbriated end, a little of the fluid escapes into the peritoneal cavity, and sets up a pelvic peritonitis of varying degrees of severity according to the virulence of the exudation; then the ostium gets closed by adhesions, and the tube becomes transformed into a shut sac by the uterine end also becoming closed. The further changes in the tube depend on the character of the primary inflammation; if it be catarrhal or due to extension of a peritonitis, then serous fluid collects in the tube, the coats of which gradually get thinned out, and finally we have a hydrosalpinx with a very thin transparent

cyst wall. When the inflammation has been purulent (as in extension upwards of a gonorrhœa), then the same changes take place, with the important difference that the cysts contents consist of pus, forming a pyosalpinx. In other cases the capillaries of the diseased mucous membrane become engorged with blood, then some of them rupture, and blood gets extravasated into the tube forming a hæmatosalpinx. This condition is shown in some of the specimens on the table, and the microscopical appearances are well illustrated in a drawing by Wyder.

I said just now that as a result of salpingitis and pelvic peritonitis, both the uterine and fimbriated ends of the tube become closed, and then dilatation takes place. This, however, does not invariably happen, for it is a positive fact that in some instances the uterine end of the tube remains patent, and that at certain times the distended tube discharges some of its contents through the uterus and vagina. This interesting condition is known as intermitting hydro- or pyosalpinx, and may go on for an indefinite time unless cured by abdominal section. To explain the phenomenon, we have only to remember that dilated tubes sometimes undergo axial rotation in precisely the same manner as ovarian tumours. This rotation occludes the uterine end of the tube, which, when further dilated, partly unwinds itself, and thus allows the escape of some of its contents.

A specimen, which I removed quite recently from a patient in the Middlesex Hospital, is such a typical example of intermitting hydrosalpinx, and as it cannot fail to convince the most sceptical, I will briefly relate the case. M. A., aged 36, was married at 20, and had one child a year later. About a fortnight after her confinement she got up, and two or three weeks later took cold and was seized with great pain in the left side of the lower abdomen, for which she had to lie up three weeks. Nine months afterwards she began to have a white discharge between the periods, and this has continued. In March, 1888, she began to have a profuse watery discharge from the vagina at intervals on walking any distance, and she also had much pain in the back. This intermitting watery discharge continued until her admission to Prudhoe Ward on April 10th, 1889. On examination my note was "left ovary and tube enlarged to the size of a small orange, and displaced below and behind the uterus. The right tube can be felt thickened and displaced downwards; the uterus is normal." I ordered hot vaginal douches night and morning, followed by glycerine tampons; also a mixture of quinine, iron, and sulphate of magnesia. Nine days after admission a watery discharge commenced and went on for a week, at the end of which time the swelling in the left posterior quarter of the pelvis was found to be much diminished in size; three weeks later she was discharged convalescent. On October 20th, 1890 (seventeen months after), she came again, complaining much of pain in the back, left side of the abdomen and left leg, with profuse gushes of watery fluid. On examination I then found a large cystic swelling filling up the left side of the pelvis. When the patient was admitted to hospital three days later the swelling was considerably reduced in size, and the patient said she had a large gush pass from her the day previous. On performing abdominal section I removed the hydrosalpinx; there were no adhesions. I tied the tube close up to the uterus, and on cutting it across the contained fluid began to flow out, showing that the tube was patent right up to the uterus, and doubtless the uterine portion was so likewise. The right tube and ovary were found to be diseased, and were therefore removed. The patient's convalescence was retarded by some troublesome suppuration in the abdominal wall, which latter was thickly loaded with fat.

Another condition which has been erroneously thought to be the explanation of these cases of intermitting hydro- or pyosalpinx is that in which a dilated tube becomes adherent to the bottom of Douglas's pouch, and thus discharges its contents into the vagina, rectum, or bladder. A most interesting case of this kind I saw some years ago in consultation with my brother, Dr. P. T. Duncan. The patient, a widow, was seized periodically with attacks of pelvic inflammation, followed by a profuse discharge of pus *per vaginam*. On examining the lower abdomen, I found on either side, rising up above Poupart's ligament, a tense elastic swelling, that on the right being mobile, but that on the left

Table of Thirty Consecutive Cases of Abdominal Section for Chronic Disease of the Uterine Appendages (One Fatal from Hæmorrhage).

No.	Name.	Age.	State.	Symptoms.	Duration.	Physical Signs.	Where operated on.	Parts removed.	Result.	Remarks.
1	A. L.	20	Single	Great dysmenorrhœa, painful defecation	7 years	Elastic tumour size of orange left side of pelvis	Waterloo Road Hospital.	Left hydrosalpinx, both ovaries enlarged, cystic	Recovery	Perfect health two years after.
2	Mrs. H.	30	Married	Constant backache, pelvic pain	6 "	Two elastic tender fixed tumours in pelvis	Middlesex Hospital	Double hydrosalpinx, both ovaries cystic	"	" "
3	Mrs. L.	32	"	Constant pelvic pain, menorrhagia	4 "	Retroflexed fixed uterus, distended left tube	Private	Left pyosalpinx, right salpingitis, ovaries cystic	"	Universal adhesions, operation very difficult, ultimate result excellent.
4	Mrs. W.	25	"	Constant backache, left ovarian pain	5 "	Uterus, ovaries, tubes fixed posteriorly	Middlesex Hospital	Left salpingitis and ovariitis	"	Right appendage left, ultimate result good.
5	F. B.	24	Single	Left ovarian pain, great dysmenorrhœa	6 "	Elastic tumour size of orange left side of pelvis	"	Left ovarian cyst, left salpingitis	"	Right appendage separated from adhesions and left.
6	Mrs. S.	25	Married	Chronic severe pelvic pain	4 "	Elastic tumour to right of uterus size of orange	Private	Suppurating dermoid of right ovary	"	Tumour universally adherent, ultimate recovery perfect.
7	Mrs. P.	21	"	Dysmenorrhœa, dyspareunia, menorrhagia	18 months	Sausage-shaped swelling on right, left tube thickened	"	Right hydrosalpinx, left salpingitis, and ovariitis	"	Universal pelvic adhesions, ultimate result good.
8	J. T.	26	Single	Menorrhagia, dysmenorrhœa, leucorrhœa	5 years	Uterus retroverted, both ovaries enlarged, prolapsed	Middlesex Hospital	Both ovaries large, left pyosalpinx, right hæmatosalpinx	"	Dense adhesions, perfect health resulted.
9	Mrs. H.	27	Married	Constant pelvic pain, dyspareunia	17 months	Cystic swelling on right, left appendage enlarged	Private	Right hydrosalpinx, chronic left salpingitis and ovariitis	"	Universal adhesions, present health perfect.
10	Mrs. B.	34	Widow	Right pelvic pain, menorrhagia	18 months	Uterus retroverted, appendages prolapsed, thickened, fixed	Middlesex Hospital	Both ovaries atrophied, tubes much thickened	"	Appendages matted together, suppurating parotid bubo, present health moderate.
11	A. J.	22	Single	Severe pelvic pain	4 years	Tumour on left, right ovary atrophied	"	" "	"	Suppuration in abdominal wall retarded, convalescence.
12	Mrs. A.	35	Married	Left pelvic pain, yellow discharge	2 "	Uterus retroverted, tender swelling to left	"	Left appendage matted, much diseased	"	" "
13	Mrs. V.	33	"	Severe dysmenorrhœa and menorrhagia	10 "	" "	"	Large fibrocystic left ovary, left hydrosalpinx	"	Ultimate result good.
14	Mrs. D.	30	"	Chronic pelvic pain, offensive yellow discharge	7 "	Elastic tumour big as fist on left side	"	Left ovary and tube matted together, right ditto	"	" "
15	Mrs. A. E.	22	"	Severe dysmenorrhœa, menorrhagia	1 "	Irregular swelling on right	Waterloo Road Hospital	Right hydrosalpinx, left salpingitis and ovariitis	"	" "
16	Miss F.	22	Single	Intense pelvic pain, dysmenorrhœa	2 "	Both appendages prolapsed, enlarged, fixed	Private	Ovaries and tubes enlarged, matted together	"	Cause: pelvic peritonitis following chill; present health excellent.
17	Mrs. M.	37	Married	Pelvic pain, dysmenorrhœa, leucorrhœa	1 "	Round tumour, size of orange, anteriorly	Middlesex Hospital	Ovarian tumour full of blood, twisted pedicle	"	Quite well, three tight twists of pedicle.
18	C. R.	26	Single	Constant pelvic pain (left)	19 months	Prolapsed enlarged ovaries	"	Fibrocystic ovaries size of horse chestnuts	"	Ultimate recovery good.
19	Mrs. M. P.	41	Married	Severe pelvic pain, leucorrhœa	5 years	Retroflexed uterus, appendages prolapsed, enlarged	"	Both tubes distended, adherent to ovaries	"	" "
20	R. B.	31	Single	Menorrhagia, dysmenorrhœa, leucorrhœa	3 "	Enlarged prolapsed ovaries	"	Ovaries large, fibrous, cystic, tubes normal	"	Present health excellent.
21	A. S.	23	Single, primi-para	Constant pelvic pain, yellow discharge	2 "	Uterus retroflexed, fixed, appendages fixed	"	Nothing removed	"	See note below (1).
22	Mrs. S.	35	Married	Left pelvic pain, dysmenorrhœa	15 months	Uterus retroflexed, fixed, appendages enlarged, prolapsed	"	Both ovaries cirrhotic, both tubes dilated	"	Dense universal adhesions, fixed, uterus replaced, ultimate result good
23	J. B.	20	Single	Chronic pelvic pain, menorrhagia	4 years	Right ovary atrophied, tender, general pelvic tenderness	"	Both ovaries ill-developed, very small	"	Uterus ill-developed, present health satisfactory.
24	Mrs. H.	25	Married	Left pelvic pain, constant discharge	4 "	Ovaries and tubes fixed in pelvis	"	Ovaries and tubes matted together	"	Present health excellent, constipation only trouble.
25	Mrs. W.	27	"	Menorrhagia, dysmenorrhœa	1 "	Uterus fixed, broad ligaments thickened	Waterloo Road Hospital	Left ovary apoplectic, double hydrosalpinx	"	Present health good.
26	Mrs. E.	20	"	Menorrhagia, severe backache	1 month	Tense swelling to left of uterus	Private	Large apoplectic ovary, left hæmatosalpinx	"	All signs and symptoms of tubal gestation, now quite well.

¹ Case 21 was operated on twice. First time, the appendages were so firmly adherent, and the abdominal wall several inches thick, that it seemed impossible to remove the disease. Troublesome suppuration in abdominal parietes retarded convalescence. Four months later patient returned, begging something more should be tried to relieve her pain. On again opening the abdomen, the omentum and intestines were so matted to the parietes that I was compelled to desist. Patient went out a month later *in statu quo*.

Table of Thirty Consecutive Cases of Abdominal Section for Chronic Diseases of the Uterine Appendages (One Fatal from Hæmorrhage)—(continued).

No.	Name.	Age.	State.	Symptoms.	Duration.	Physical Signs.	Where operated on.	Parts removed.	Result.	Remarks.
27	Mrs. M.	22	Married	Severe pelvic pain, collapse	5 weeks	Tumour filling left side of pelvis	Private	Large apoplectic left ovary, double pyosalpinx	Recovery	All signs and symptoms of tubal gestation now quite well.
28	Mrs. H.	20	"	Menorrhagia, dysmenorrhœa	13 months	Ovaries and tubes enlarged, fixed in pelvis	Waterloo Road Hospital	Chronic ovaritis and salpingitis, appendages adherent	"	Universal adhesions, operation very difficult
29	Mrs. J.	31	"	Dysmenorrhœa, leucorrhœa	2 years	Uterus retroverted, broad ligaments thickened	Middlesex Hospital	Chronic ovaritis and salpingitis, appendages adherent	Death	See note below (c).
30	Mrs. S.	37	"	Pelvic pain, menorrhagia, dysmenorrhœa	6 months	Cystic swelling	Waterloo Road Hospital	Double hæmatosalpinx, left ovary cirrhotic, right ovary apoplectic	Recovery	Present health good.

^c Case 29 (the only fatal one) was found collapsed half an hour after the operation. She soon rallied by injection of ether. Pulse slow, regular, 80. I was not sent for, but when visiting three hours later, she seemed (and expressed herself as being) quite comfortable. Next day everything seemed well, but after thirty-six hours temperature began to rise, with abdominal pain and distension, so I reopened wound; found abdomen full of blood; cleared this out rapidly; retied right pedicle; irrigated abdomen; patient never rallied.

was fixed, and it was noted that the left tumour diminished in size coincidently with the discharge of pus. Little could be made out on vaginal examination owing to the pelvic inflammation. I diagnosed double pyosalpinx, the left tube being adherent and forming a fistulous communication with the vagina. She refused to run the risk of operation, and I do not know what has become of her.

CHRONIC OVARITIS AND CONGENITAL DEFECTS.

Passing on now to disease of the ovary, the first and most common is chronic ovaritis. This may be secondary to the acute form, or due to extension of inflammation from the uterus and tube, or as a result of peritonitis and periovaritis; the last is a by no means uncommon cause. The ovary gets bound down by adhesions which after a time contract and produce a cirrhotic condition; in other cases the ovary is enlarged, but as a result of the chronic inflammation there is an increased development of fibrous tissue in the stroma, with the formation of small cysts. In either case it is obvious that ovulation can only proceed with great difficulty, and the follicles, as they enlarge, may be unable to reach the cortex.

Congenitally ill-developed ovaries are not common. When they occur, the uterus is (in my experience) likewise ill-developed. The subjects of this condition may be fine, handsome women, but they suffer dysmenorrhœa, and if married, are sterile. I removed a specimen five years ago from a young woman, aged 21, who consulted me for intense dysmenorrhœa. She began to menstruate at 17, always lost only very little for two days, but she described the pain she suffered as "fearful agony;" it began a week before the period, and reached its acme two days after the period was over. She was a tall, fairly healthy-looking dark girl, apparently not a bit neurotic; she lived in the country, and took plenty of exercise in the intervals of the attacks. She has never had any illness beyond the diseases of childhood. On examination (under nitrous oxide) I found the uterus small and acutely anteфлекed; the sound entered two inches. Nothing else abnormal was detected: the ovaries or tubes could not be felt. I recommended that the uterine canal should be dilated, and this I did up to No. 12 Hegar. Subsequent to this the two following periods were less painful, but then all the old trouble returned; so after fully explaining the nature of the operation to the parents, I performed abdominal section, and removed a pair of small ovaries with the tubes. The patient recovered without a single bad symptom, and she is now in perfect health.

Yet another case: A few weeks back, a lady from Wales was brought to me by her brother-in-law (a medical man); she is 31, has been married ten years, and has never been pregnant. The catamenia began at 16, have always been scanty, lasting from one to three days; she has suffered pain both during and between the periods; the pain is such that she has to lead more or less the life of an invalid, and it has increased in severity for the last two years. On examination,

the uterus was small, and normal in position; the right ovary could be easily palpated, and felt about half the normal size; the most careful examination failed to detect the left ovary. In this case I suggested that electricity might be tried for a couple of months with a view of endeavouring to stimulate the ovaries, but if (as was most probable) this failed, then, provided the patient suffered sufficient pain to justify her in running the risk, the only course left was removal of the appendages.

When mentioning electricity, I meant its application by the introduction of one pole into the uterine cavity, and placing the other on the abdomen, not by using the so-called galvanic stem pessary, for all stem pessaries are fruitful sources of pelvic inflammation, and should only be used on the rarest possible occasions; whilst, with regard to this particular variety, I think most gynecologists consider it absolutely worthless as a generator of electricity.

HÆMORRHAGE INTO THE OVARY.

"Apoplexy of the ovary," or, as it might more appropriately be termed, "hæmorrhage into the ovary," is a condition which has been described by various observers, especially by Winckel and Olshausen. Olshausen mentions two varieties: (a) hæmorrhage into the stroma, and (b) hæmorrhage into the follicles. That the condition cannot be so rare as is usually considered is seen from the fact that it occurred four times in my thirty cases. When an ovary is diseased (as in Case 27, in which it is tubercular), it can be readily understood that extravasation of blood into the stroma might without difficulty take place; that such an extravasation, even though of limited extent, can give rise to great pain, collapse, and fainting was well exemplified in the same case, for on Dr. Steele's arrival he found the patient so collapsed that he had to inject ether. In Case 26 the hæmorrhage apparently took place into an enlarged follicle, and was associated with an effusion into the Fallopian tube of the same side. Probably some extraneous cause in this young married lady—such as coitus close upon the onset of the catamenia—induced excessive hyperæmia of the ovary and tube, resulting in hæmorrhage into these organs.

SYMPTOMS OF DISEASE OF THE APPENDAGES.

The symptoms of diseased appendages are essentially two, namely, pain and menorrhagia. The pain is variable. In some cases it may only come on at the periods, and then be quite bearable; in others the dysmenorrhœa amounts to intense agony. As a rule in these cases there is more or less constant pelvic pain, which increases in severity for about ten days, or a fortnight before the period comes on, reaching its height at this time, and diminishing after the flow has been fully established. The pain is referred to the side most affected; it is often described by the patient as of a gnawing, tearing character, shooting through to the back, and perhaps down the thigh to the knee.

In some instances it has been described to me by patients as feeling "as if someone had seized hold of their insides and was trying to tear them out." In my experience, the greatest amount of pain is felt as a rule in those cases where from extensive pelvic peritonitis the ovaries and tubes are matted down in the pelvic cavity; in these cases a vaginal examination may reveal nothing beyond some impaired mobility of the uterus, with tenderness on pressure. Usually in chronic disease of the appendages there is pain on coitus, and this may be of all degrees of severity. Not a few of my patients have told me it was so intense that they have been compelled to lead a single life for months.

The hæmorrhage also varies in amount. In most cases the loss at the period is increased. Women will say that their periods, instead of lasting four or five days, now go on, perhaps, for a fortnight; that whilst half a dozen napkins used to be sufficient, now they require eighteen to twenty-four. Others will say with regard to their periods that "they are hardly ever free from them." I believe the loss is greatest in cases of chronic ovaritis and salpingitis; but where the tubes are dilated with serum or pus there does not appear to be much alteration in the amount lost. Another symptom to be remembered is (as already mentioned) the occasional discharge 'in gushes' of water or matter in those cases of intermitting hydro- or pyosalpinx.

PHYSICAL SIGNS OF DISEASE OF THE APPENDAGES.

The physical signs are of the greatest importance. There is a good deal of difference of opinion respecting them; some able observers never (or hardly ever) find diseased tubes and ovaries on examining their patients, whilst others are constantly diagnosing them. In many instances the signs are sufficiently obvious on making an ordinary bimanual examination, whilst in others it is essential to give an anæsthetic and to examine *per rectum* as well as *per vaginam*.

Can a normal ovary be palpated when in its usual situation? I answer unhesitatingly, Yes, in the majority of cases, where the abdominal walls are thin and lax; not only so, but atrophied or congenitally ill-developed ovaries can be made out; so also can the Fallopian tube, especially near its uterine end. When the tube is thickened from chronic salpingitis, and is about as large as one's little finger, it feels not at all unlike a varicocele in the male, giving the same sensation to the finger that a bag with a few worms inside does. Not infrequently the ovaries and thickened tubes are prolapsed into the pouch of Douglas, when their detection is possible even to the *tactus non eruditus*.

When enlarged ovaries and tubes are matted together by old pelvic adhesions, they give rise to a firm, roundish, or elongated tumour felt in one or other posterior quarter of the pelvis, and perhaps extending somewhat behind the uterus. It is only within comparatively the last few years that the pathology of these tumours has been rightly understood; in my student days they were almost invariably described as cases of pelvic cellulitis in one or other broad ligament, but since abdominal section has been more frequently performed it is clearly proved that cellulitis does not exist except as part of a septicæmia or as secondary to a pelvic peritonitis. Those tumours, then, which are detected at one or other side of the uterus, and which do not depress the vaginal roof or materially displace the uterus, are in the vast majority of cases the result of pelvic peritonitis following upon chronic disease of the ovaries and tubes, whereby these organs are matted together, and to the different structures in their vicinity, such as broad ligament, uterus, omentum, and intestines. When a hydro- or pyosalpinx exists, it feels (in a typical case) an elongated, tortuous, elastic swelling, extending from the side of the uterus outwards in the broad ligament, and backwards into Douglas's fossa. In many cases, however, the dilated tube is roundish instead of being elongated; this is probably due to adhesions. On the other hand there may be a large hydro- or pyosalpinx which the most careful examination under an anæsthetic fails to detect; this is due, I believe, to the fact that the dilatation is "not a tense one." In two cases on which I operated for disease on one side, I found in each, after removing the affected parts on that side, a large dilated tube on the other, which had previously escaped detection. When the ovaries and tubes are matted to the pelvis by adhesions, examination *per rectum* is

very important; by this means, also, we can ascertain whether prolapsed ovaries are free or adherent.

The prognosis depends on the conditions present in any individual case; a woman with a pyosalpinx is in constant danger of its setting up acute and fatal peritonitis; even a hydrosalpinx may do the same, although the risk is much less. In most of the other conditions, whilst they are not necessarily fatal, they, as a rule, render life one long state of chronic invalidism, accompanied by greater or less suffering, which may certainly be alleviated by medicines, but which, I fear, can usually only be cured by abdominal section. When this operation is resorted to, the prognosis is very good, as seen in the thirty cases recorded, where there was only one death, and this from the distressing accident of slipping of the pedicle ligature and fatal secondary hæmorrhage. The ultimate prognosis as to sound health is also good, but it must not be forgotten that the full benefits of the operation are not usually felt for several months after, as the patients have to pass through the sympathetic disturbances incidental to the bringing on of the menopause.

TREATMENT.

The remaining time at my disposal must be devoted to the treatment of these cases. Now, as this is the most important part of the whole subject (at all events, as far as the welfare of our patients is concerned), and as there is such wide divergence of opinion on the point, it demands our most deliberate and dispassionate investigation.

First, when a definite tumour of the appendages is found in the pelvis of a woman who complains of pain, and, perhaps, hæmorrhage, I am strongly of opinion that the condition should, as far as possible, be described to her, and abdominal section recommended after the risks attaching to it have been fully explained.

Secondly, if the tumour be a dilated tube, the same course should be adopted, as even a hydrosalpinx may set up peritonitis. The old methods of treating dilated tubes, either by tapping *per vaginam* or by electricity, are not only unscientific, but also more dangerous than abdominal section. In any case where the symptoms and physical signs lead one to suspect tubal gestation, it is our duty to insist on operation without delay.

Thirdly, in cases where the tubes are thickened from chronic salpingitis, with perhaps, the ovaries enlarged and tender, or even prolapsed; tonics, aperients, repeated blistering, hot vaginal douches and glycerine tampons should be tried for a couple of months; and if at the end of that time there be no improvement, then I do not hesitate to advise removal of the appendages, provided the patient suffers sufficiently to run the risk of the operation.

Fourthly, if after one or more attacks of pelvic inflammation a woman suffers pelvic pain, dysmenorrhœa, and dyspareunia, and perhaps menorrhagia, the great likelihood is that careful pelvic examination will detect the ovaries and tubes matted together and to the surrounding structures, and the mobility of the uterus impaired; but, where probably no definite tumour can be made out, what should be our line of practice in a case of this kind? Are we to pin our faith on Epsom salts (like some do), and, when this drug fails, to fold our hands, express the deepest sympathy with the sufferer, but on no account suggest any operative interference? Surely this practice is just as reprehensible as the opposite one, where the appendages have been removed without obvious disease, but for some neuralgic affection. From personal experience of these cases, I know that nothing short of abdominal section will cure; that the operation is usually extremely difficult; and that the ultimate result is correspondingly satisfactory.

Fifthly, in cases of congenitally ill-developed ovaries, with an acutely ante flexed uterus, associated with marked dysmenorrhœa and sterility, I would, first, under anæsthesia, widely dilate the cervical canal by means of Hegar's dilators. This failing, electricity might be tried, and, as a last resource, nothing is left to be done but removal of the diseased ovaries. With regard to the question of unsexing a woman by the removal of her appendages, it need not influence our treatment in the conditions mentioned under the above five headings, seeing that she is already unsexed, as the appendages are practically useless as far as procreation is concerned; and the subsequent history of those of my patients who are mar-

ried bears out the statements of other observers that the sexual appetite is not usually diminished by the operation. Indeed, in some cases the opposite result ensued.

Sixthly, whenever, on opening the abdomen, the operator finds the ovaries and tubes fixed by adhesions, he should break down the latter with his fingers, and then having brought the appendages into view, carefully examine them for any well-marked visible or tangible signs of disease. If no marked departure from the normal be made out, then it is the operator's bounden duty to stay his hand from removing the appendages. I firmly believe that the cause of the patient's symptoms is, in not a few cases, the presence of adhesions, and that when these are broken down it is unnecessary to proceed further; but how many operators have the moral courage to do this? One or two dilated follicles seen on the surface of an ovary are thought sufficient to justify the spaying of the patient.

Lastly, inasmuch as there is usually an absence of disease of the appendages in cases of ovarian neuralgia occurring in neurotic subjects, any local interference is not only unnecessary, but absolutely unjustifiable, and the same remark applies in great measure to cases of hystero-epilepsy and other mental disorders.

It cannot, I think, be too strongly enforced that removal of the appendages for chronic disease is in most cases much more difficult than performing ovariectomy; indeed, in a very small proportion the operation may have to be abandoned, as occurred to me in Case No. 21; hence the tiro in abdominal surgery ought not to attempt operating on these cases. Again, it is most essential that the patient and her immediate relatives should have the nature of the operation and its risks fully explained to them, as well as the change in life which will be produced by it.

Before concluding, I wish to make a few remarks on the *technique* of the operation.

Anæsthetic.—With regard to this, almost every operator has a predilection for a particular one. Until comparatively recently I preferred my patients to have ether, but now it seems to me that chloroform, given either on a piece of lint or by Junker's inhaler, is the best, as it produces more complete relaxation of the abdominal parietes and there is no risk of lung complication following. A few years back a patient on whom I performed ovariectomy died two days later from acute bronchitis induced by the ether administered.

Antiseptics in the Listerian sense of the term are unnecessary in abdominal operations; indeed, I would go further, and say that the spray may be positively injurious. The great thing is strict cleanliness. The routine practice I carry out is as follows: Having thoroughly washed my hands and forearms in soap and water, using a nail brush vigorously, I then dip them in a 1 in 2,000 solution of corrosive sublimate for one minute. The patient's abdomen is scrubbed with soap and water, and afterwards washed with the corrosive solution. The sponges are wrung out of boiled water, and boiled water is poured over the instruments; nothing else, except that my assistant treats his hands and arms in the same manner as I do. One great element of success in these operations is that, if possible, no fingers but the operator's should be allowed to enter the peritoneal cavity, and on no account whatever should any bystander examine the case or give help until he has rigidly rendered his hands aseptic.

Ligating the broad ligament in these cases requires more care than the pedicle in ovariectomy, and I believe it would be safer in all cases to tie it in three portions with strong silk (Chinese twist). The Staffordshire knot seems not to be so safe as the ordinary method of dividing the double ligature, and tying in two parts after crossing the threads.

A few weeks back I very nearly lost a patient from secondary hæmorrhage after ovariectomy. The pedicle was rather thick and long, and I thought I would show Dr. Noakes, of Nice, who was present, the ease with which the Staffordshire knot can be applied. Having removed the tumour, cleansed the peritoneal cavity, and tied all the abdominal sutures but two, I saw a little blood at the bottom of the incision; on separating the edges, sure enough the abdominal cavity was full of blood. I rapidly seized the pedicle, found the ligature had slipped, so, after retying securely, washed out the peritoneal cavity as quickly as possible with a 5 per cent. boracic acid solution, removing, in doing so, large clots from near the

liver and spleen. Had half a minute more elapsed I should have closed the abdomen, and most likely the hæmorrhage would not have been discovered, as the patient was in a very feeble and collapsed condition all through the operation; as it was, she luckily recovered without a bad symptom.

Drainage.—A good deal of difference of opinion exists on the value or otherwise of drainage. Personally I never use a drainage tube in simple cases, but where numerous adhesions have been torn through, causing free oozing of blood, or where some of the contents of a tumour have escaped into the abdomen, then I insert a glass tube for from thirty-six to forty-eight hours, and with the happiest results. One disadvantage of using the drainage tube is that that part of the abdominal wall through which it passes seems to unite less firmly than the rest, so that later on the scar has a tendency to give, causing a ventral hernia.

Flushing the peritoneal cavity is, I think, a proceeding of risk; at the same time, it is very valuable in cases where pus or other irritating fluid escapes into the cavity. I always use a 5 per cent. boracic solution at a temperature of 100° F., introduced through a large india-rubber tube attached to a douche tin. It is necessary after flushing to use a drainage tube. The immediate effect on patients varies; some appear stimulated and others markedly depressed, but I know no way of finding out beforehand which will happen in any given case.

The after-dressing is important. The abdomen having been thoroughly cleansed with a sublimate solution, I place over the wound a strip of oil silk which has been dipped in the solution; this strip is about an inch and a half wide, and long enough to extend a little way beyond the extremities of the incision. Boracic acid is next dusted over the edges of the oil silk and over the rest of the abdomen; plenty of sal alem-broth or salicylic wool is next laid on, and the whole firmly fixed by wide strips of adhesive plaster, reaching from below the hips up to the epigastrium. It will be noted that nothing but the oil silk touches the wound; this I find gives every satisfaction, and when the first dressing is removed on the eighth day it causes no pain to the patient. Formerly I used to dust iodoform powder over the wound, but it is not free from risk. I had a succession of cases in which troublesome suppuration took place in the abdominal parietes along the tracks of the stitches; this I could not account for nor prevent until I discarded the iodoform, when the succeeding cases progressed in the normal manner. In other cases it produced delirium.

After-treatment.—My plan is the following:—Nothing whatever passes the lips for twenty-four hours, but if the thirst is distressing I have the mouth washed with warm water frequently, and, provided there be no sickness, a teaspoonful of hot water given every two hours. I believe ice is not so good as hot water, and it certainly produces flatulence. In cases where the operation has been very severe, or in elderly women, a nutrient suppository is administered *per rectum* every four hours. If there be decided pain, a $\frac{1}{4}$ -grain morphine suppository is given, and repeated when necessary. Morphine should not be given as a routine practice, and many cases do perfectly well without it, but I think it is distinctly cruel to deny it, as some do, to patients suffering decided pain. After twenty-four hours an ounce of milk and soda is given every two hours, increasing gradually, and with some beef-tea the next day. As a rule, a small cup of ordinary tea with milk is longed for by, and most grateful to, the patient. The urine is drawn off every eight hours for a few days, but when patients have a desire to pass it naturally, even two days after the operation, I always allow them to do so. An aperient is given on the seventh day, before the stitches are removed, and the patient gradually takes solid food. She is turned on the side occasionally after the seventh day, and at the end of ten days allowed to sit up in bed.

So much for an ordinary case. When complications arise, the treatment requires modification. Vomiting is the most common, and the ordinary sickness from the anæsthetic is best treated by letting nothing be taken for twenty-four hours. Recently I have adopted, and with distinct success, a plan of Mr. Howse's suggested to me by Dr. Moss, the able resident medical officer at the Royal Hospital for Women and Children. It is to administer *per rectum* at the termination of the operation, an ounce of port wine in an equal quantity of hot water.

In some cases there may be severe vomiting, not from any inflammatory condition of the peritoneum, but probably from mere atony of the bowel. If in addition to the vomiting there be flatulent distension of the abdomen, the case simulates closely one of peritonitis, and it is here that an aperient of sulphate of magnesia or soda acts like a charm.

One of my patients (Case 9), a thin, neurotic lady, had frequent vomiting for six days after the operation (on four days it was black), which nothing would allay. At last I thought I would give an aperient, but as she was very low, I called in consultation an eminent obstetric physician who did not think it advisable to purge. Next day, however, as she continued getting worse, I gave a dose of white mixture, and repeated it every two hours until the bowels acted. The effect was marvellous; she was only sick slightly once after the first dose, and from that time recovered steadily.

Flatulence is a frequent and often troublesome complication. I make it a routine practice to have a soft india-rubber tube passed into the rectum for several inches at least twice a day, and find it gives relief. In a case of Porro's operation which I performed at the Middlesex Hospital, there was enormous flatulent distension a few days after the operation, giving rise to all the signs of acute peritonitis; but on passing a long stiff tube into the colon, a tremendous escape of gas put an end to the unfavourable symptoms. In slight cases a teaspoonful of brandy in half an ounce of hot water gives much relief. My patients suffer little from flatulence since I have discarded the use of ice.

Peritonitis is the only other complication about which I shall speak. It may, of course, have existed before the operation, or it may be due to the escape (at the time of operation) of some pus or irritating fluid into the abdominal cavity; but when it sets in after a straightforward case of abdominal section, I cannot help thinking the operator has to reproach himself that the measures he adopted to ensure strict cleanliness were wanting in completeness. Although when once it has set in it need not necessarily be fatal, I believe the best chance is given to the patient by reopening the wound without delay, and irrigating the cavity thoroughly with the boric acid solution, and inserting a drainage tube. The only case in which I did this for acute peritonitis coming on two days after I had performed abdominal section recovered completely, and is now, three years after, perfectly well.

Mr. Lawson Tait recommends the use of saline aperients, but I cannot help thinking that even such an experienced and able observer as he may have mistaken flatulent distension and vomiting for peritonitis.

In conclusion, I would remark that simple cases of abdominal section seem to recover equally well if put back, immediately after operation, into the general ward, as when isolated in a special ward for several days.

ABSTRACT OF A PAPER ON THE TREATMENT OF CHRONIC DISEASE OF THE UTERINE APPENDAGES.

Read at a Meeting of the Medical Society of London.

By ALBAN DORAN, F.R.C.S.,
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My object in reading this essay is to review briefly the subject expressed in its title. Clinical records and statistics are unsuited for the purpose. Treatment by rest, which is relatively speaking expectant, cannot be satisfactorily judged by statistics. It involves essential factors hard to tabulate. Such a task demands special mental gifts and opportunities such as enabled Dr. Boxall to prepare, at the cost of enormous labour, his invaluable tables relating to pregnancy and childbed. On the other hand, the tabulation of operations, with results and after-histories, is work which most men may, with due deliberation, undertake. We do not yet know how to reduce our "rest" cases and operation cases to equal terms in a mathematical sense. We must, therefore, content ourselves with a brief review of all forms of treatment.

Throughout this communication I will, except when I specify to the contrary, speak of chronic inflammatory changes in the Fallopian tubes and ovaries as one com-

plaint, "disease of the uterine appendages." The specimens now exhibited serve to explain the principal varieties of this affection.

The different methods of treatment more or less in vogue are:—

1, Rest; 2, Electricity; 3, Massage; 4, Curetting of the uterus and Emmet's operation; 5, Catheterism of the tubes; 6, Vaginal puncture of cystic tubes; 7, Abdominal section, which includes the following subdivisions: (a) The complete operation, removal of the tube and ovary, or oöphorectomy; (b) drainage of a hydrosalpinx; (c) breaking down of adhesions and drainage; (d) essentially "incomplete operations," or simple opening of the peritoneum; (e) plastic operations on the tube, or salpingostomy.

Treatment by rest often proves successful if intelligently carried out. The action of drugs must be carefully watched in each case. Thus sulphate of magnesia is very beneficial in most cases, yet others cannot tolerate it. In one case, at least, under my care it set up tympanitic distension of the abdomen with rise of temperature. I witnessed precisely similar symptoms after giving a dose of the same salt to an ovariectomy patient on the eighth day. Intimate intestinal adhesions had been broken down during the operation, and it is evident that the disturbance to the damaged intestines set up by the saline aperient caused the grave complication which followed its administration. In the first case, where the appendages were diseased, intestinal adhesions were probably disturbed as in the second. Both did well when enemata were substituted for aperients. The tampon causes irritation in many cases. The sound had best be dispensed with, and the greatest care must be taken not to make the patient a chronic invalid.

Though electricity may check the growth of fibroids, or may even cure gonorrhœa by killing the gonococci (Prochownik), it is hard to understand how the current can open tubes, clear adhesions, and remove the products of inflammation.

Massage is open to great objections when practised on the genitals, and it is absolutely dangerous when the tubes feel in the slightest degree dilated or the ovaries uneven, that is, in almost the entire class now under consideration. Profuse purulent discharge from the uterus has followed massage, and may signify that pus has found its way out of the tubes. The dangers of deliberately submitting a suppurating tube to treatment by massage are, however, self-evident.

The curette is extensively used abroad, and occasionally in this country. That instrument is properly intended for the cure of endometritis. Foreign authorities declare that endometritis infects the tubes and thus sets up salpingitis, which extends to the ovaries. The cure of endometritis by the curette, by removing the cause will, according to these authorities, cure the disease of the appendages. This principle of treatment is purely theoretical. The curette seems to do good in pure endometritis. Should disease of the appendages be present, few proceedings can be more dangerous than dilatation and scraping. Tissues are thereby irritated in the neighbourhood of inflamed pelvic structures, all for an unsettled theory. The curette has been the direct cause of severe inflammation of the appendages, which some authorities believe that it can cure. Men must not be led astray by pretty French names like "curetage," "hersage," and "écouvillonnage." They define proceedings justifiable in endometritis, but not in cases of more extended pelvic disease.

Emmet's operation as a remedy for disease of the appendages is also based upon pure theory. Catheterism of the tubes is difficult, if not impossible, to perform, and dangerous or useless if really effected. Vaginal puncture of the cystic tube has been advocated by Leopold, who notes that even if the tube be not completely emptied by the puncture, its muscular coat can once more act, just as the uterus contracts if the membranes be ruptured and the waters escape during pregnancy. This proceeding, however, involves operating in the dark, and cystic ovaries, or even fetal sacs, have been perforated by mistake.

Oöphorectomy is the best operation in a large class of chronic cases where subacute seizures occur frequently and at gradually shortening intervals, and where careful bimanual palpation proves the existence of a mass on one or both sides