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(6.)

ON

CHRONIC DISEASE

OF

THE UTERINE APPENDAGES.

With a Table containing Short Notes of Thirty Consecutive Cases treated by Abdominal Section.

BY

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ON CHRONIC DISEASE OF THE UTERINE APPENDAGES;

WITH A TABLE CONTAINING SHORT NOTES OF THIRTY CONSECUTIVE CASES TREATED BY ABDOMINAL SECTION.[1]

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Mr. President and Gentlemen,—When asked to read a paper before this Society, it occurred to me, after some consideration, that the subject I have chosen would be a good one, inasmuch as it is of great importance and one about which —especially with regard to diagnosis and treatment—there is at the present moment much difference of opinion. I propose, in the first place, to relate a few typical cases, and then to discuss the subject systematically.

Case 6. *Small suppurating and adherent dermoid tumour of right ovary.*—Mrs. S——, aged twenty-six (an Australian lady), was sent to me by Dr. Cory, of Guildford, for chronic pelvic pain and dysmenorrhœa. The patient is a tall, thin, and delicate-looking woman. The catamenia began at sixteen, were regular and normal until four years previously, when she began to suffer pelvic pain, especially on the right side, and radiating through to the back; this pain has decidedly increased since her marriage two years ago; she has not been pregnant, and latterly there has been much dyspareunia. On examination nothing is felt abnormal in the lower abdomen. Per vaginam the uterus is not enlarged, but is pushed somewhat to the left side by a rounded, tender, somewhat elastic,

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[1] Read at a meeting of the Medical Society of London.

and fixed tumour, about the size of an orange, in the right posterior quarter of the pelvis. This was diagnosed as an enlarged ovary, and the patient was kept in bed for two months. Hot iodine douches were used night and morning. Blisters were applied over the right ovarian region, and small doses of corrosive sublimate with iodide of potassium given thrice daily. No improvement resulting, abdominal section was performed, when the tumour proved to be a suppurating dermoid, with universal adhesions, so that its removal was exceedingly difficult. During the operation some of the purulent contents escaped into the pelvic cavity, and there was oozing from the torn adhesions. The pelvic cavity was flushed with a hot 5 per cent. boracic solution and a glass drainage-tube inserted. The tube was removed in thirty-six hours. The patient progressed satisfactorily until a week after the operation, when a small hæmatocele occurred where the tumour had been. This made the patient's recovery tedious, but I saw her a year after the operation, when she expressed herself as feeling perfectly well in every respect, and she is putting on flesh. At the time of the operation the left tube and ovary had a few adhesions binding them down, but otherwise they appeared healthy; so the adhesions were divided, and the appendage left intact.

Case 24. *Pelvic peritonitis; right hydro-salpinx, left ovary and tube matted together; cure.*—Mrs. H——, aged twenty-seven, married three years; has never been pregnant. Catamenia commenced at fifteen, always more or less painful, worse since marriage. In 1888 she was operated on in Australia for the cure of the dysmenorrhœa, which she was told was due to her womb being bent. She was ill after the operation from "inflammation." On coming to England in 1889 she consulted me. I found "uterus normal in position, but its mobility is impaired. In the left posterior quarter of the pelvis the ovary and tube feel matted together and enlarged; in the right quarter is a cystic swelling which feels like a dilated tube." On December 7th, 1889, I performed

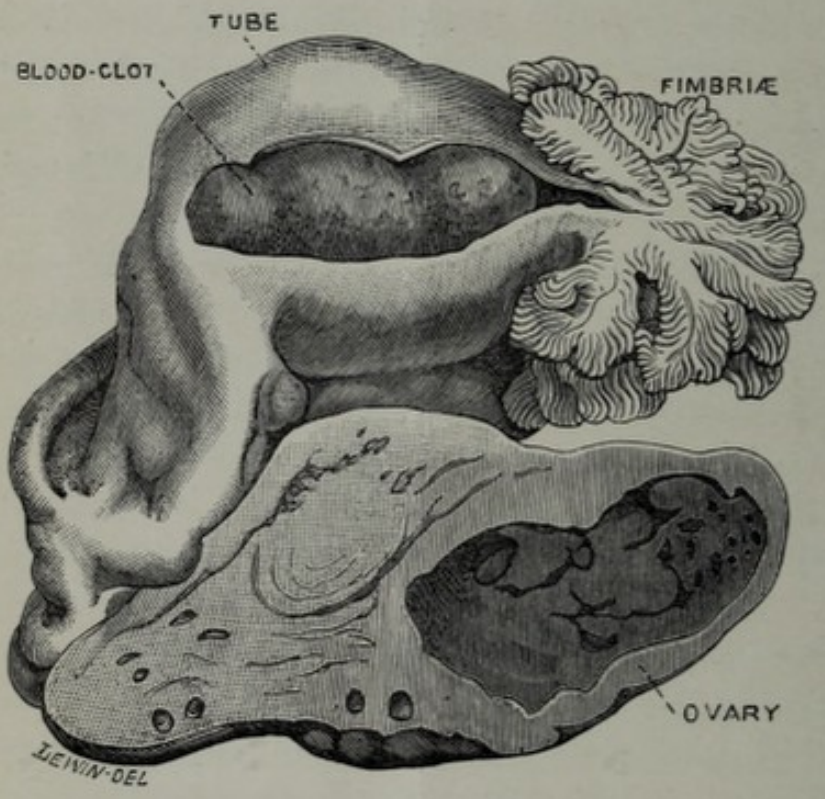
abdominal section, and found the left appendages universally adherent, with much thickening of the tube from chronic salpingitis. The right tube was dilated into a thin-walled cyst, and contained four ounces and a half of serous fluid ; there was rather free oozing from the torn adhesions, but it was soon controlled by sponges. The patient's subsequent history is very interesting. Two hours after the operation sickness commenced, and continued, despite all treatment, with great frequency for six days, during which time the patient vomited 103 times. Thirty-six hours after the operation the retching was so severe that the wound was partly torn open and secondary hæmorrhage ensued. Harelip pins were used to give greater support. From the third to the sixth day the vomit was black. On the seventh day an enema of fifteen ounces of olive oil was given, as well as a dose of white mixture every two hours by the mouth. These acted freely, and from that date all sickness disappeared. The patient was up on a couch on the nineteenth day. Since then she has been to Australia and back, and now (January, 1891) she is perfectly well, and enjoys violent exercise on horseback.

The next two cases are very interesting, inasmuch as they presented symptoms and physical signs of tubal gestation. Both are young married ladies, living close to one another in Hertfordshire, and were under observation and treatment at the same time.

Case 26. *Left hæmato-salpinx, with apoplexy of ovary.*— Mrs. E——, aged twenty, married six months. She was regular for three periods after marriage ; she then saw nothing for seven weeks, and had morning sickness, with pains in the breasts and lower part of the back. At the end of the seven weeks she was seized with severe pains in the left side of the abdomen and in the back, accompanied by hæmorrhage. A clot was passed, but this was not shown to her medical attendant, Dr. Ambler, of Hemel Hempstead. Under treatment and rest the loss diminished for a time, but the pain still remained. The hæmorrhage again increased, so Dr. Ambler

asked me to see her. I found on examination the uterus somewhat enlarged, the os uteri admitting the finger tip. In the region of the left Fallopian tube, and extending somewhat behind the uterus, was a tense, elongated cystic swelling, apparently about the size of a sausage. The sound was not passed. I diagnosed a tubal pregnancy, and, in view of its possible rupture at any moment, recommended that abdominal section should be done without delay. I operated next

FIG. 1.

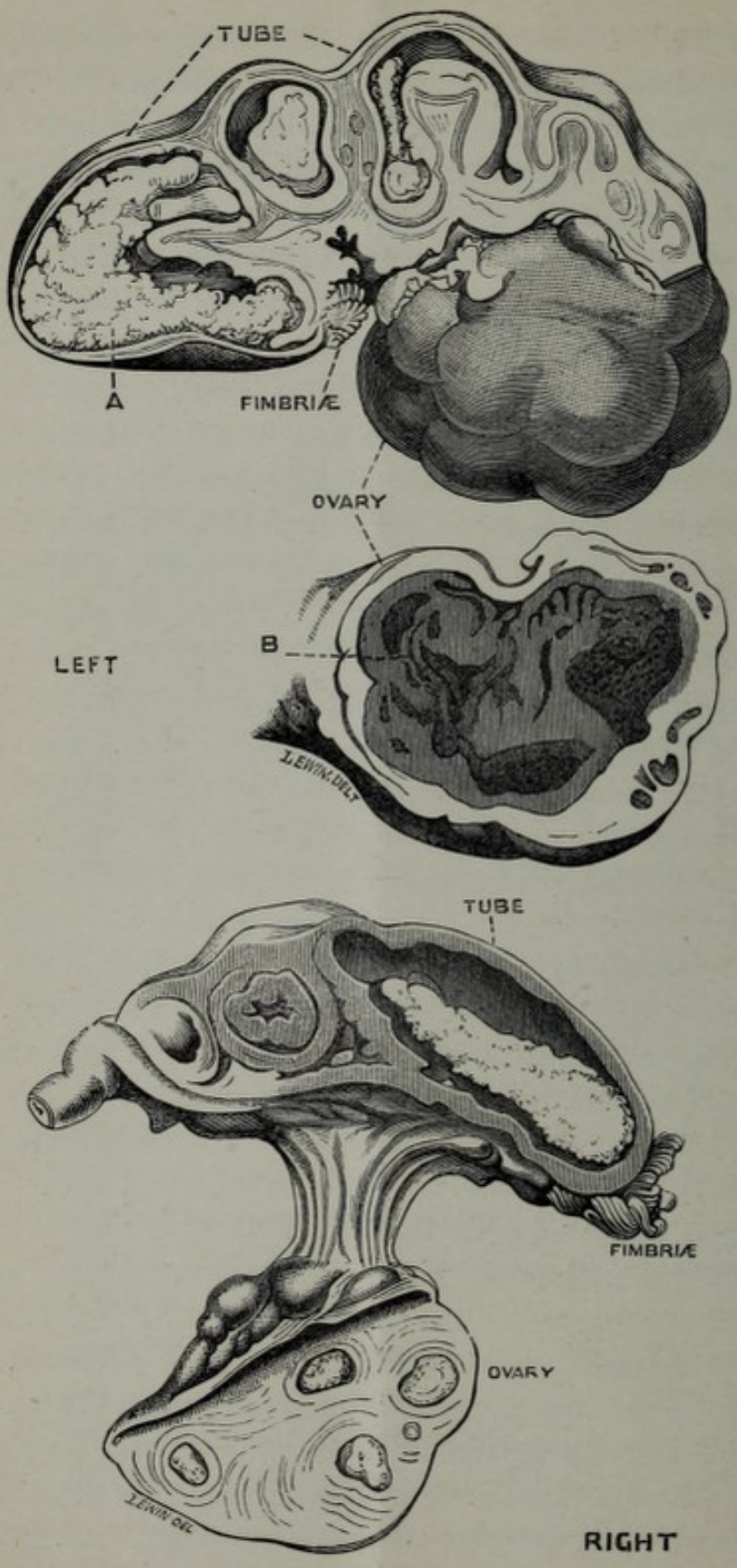


CASE 26.—Hæmato-salpinx and apoplexy of ovary.—Tube distended with blood and blood-clot. Ovary enlarged. Hæmorrhage into (probably) a greatly distended Graafian follicle.

morning, and without much difficulty removed the specimen I now hand round. The ovary is much enlarged, and on section is seen to be filled with blood; the Fallopian tube is distended to the size of a banana, and it also is full of blood, partly fluid, partly clotted (Fig. 1). The patient made an uninterrupted recovery, and is now (January, 1891) in perfect health.

Case 27. *Double tubercular pyo-salpinx, with tubercular disease of both ovaries and apoplexy of left ovary.*—Mrs. M——, aged twenty-two, married two years and a half; never pregnant. The family history is good, except that one maternal uncle died of phthisis. Previous history good. Catamenia began at fifteen, regular every four weeks, and lasting one week; but ever since the onset of the periods there has been pain in the left ovarian region. Since marriage the dysmenorrhœa has been much worse, and clots have been passed. On June 9th, 1890, she consulted her medical attendant, Dr. Russell Steele, of Hemel Hempstead, as the pain was so severe. She then had amenorrhœa for six weeks with some morning sickness, and thought she was getting stouter. On making a vaginal examination, Dr. Steele felt an irregularly shaped mass, very tender to the touch, to the left side of, and slightly behind, the uterus. Bimanually little could be made out, owing to the thickness of the abdominal parietes. Rest in bed with sedatives was ordered. Fourteen days later Dr. Steele was suddenly summoned to see the patient, and on arrival was informed that she had been to the watercloset, and was there suddenly seized with the most excruciating pain in the lower abdomen. "Something" passed from her into the pan of the closet during the pain, but, unfortunately, it was not kept. Dr. Steele found the patient faint and collapsed, but after administering stimulants and a hypodermic injection of ether she quickly rallied. When I saw the patient, in consultation with Dr. Steele, the condition was just as described above, and I concurred in his opinion that most likely it was a ruptured extra-uterine gestation; but as I thought it had ruptured between the layers of the broad ligament, I recommended strict confinement to bed and watching the progress. As a week later, she seemed getting worse, pain more severe, pulse feebler, I performed abdominal section, with the help of Dr. Steele and Mr. Battle. On opening the abdomen the peritoneum was seen to be studded with rice-like bodies. The left broad ligament was apparently distended by a tense, bluish,

FIGS. 2 & 3.



CASE 27.—Left ovary and tube.—*Ovary* enlarged, adherent to tube, and full of blood (B). *Tube* distended with inspissated tubercular pus (A).
CASE 27.—Right ovary and tube.—*Ovary* twice normal size, containing deposits of cheesy pus. *Tube* distended with a like deposit.

elastic swelling, but after tearing down many adhesions (a process which took more than an hour) the swelling proved to be a distended Fallopian tube and enlarged ovary matted together. These were removed after transfixing the broad ligament in the usual way. The appendages on the right side were removed in the same manner after breaking down many adhesions. A drainage-tube was inserted and the wound treated in the ordinary way. On examining the parts removed (see Figs. 2 and 3) the left Fallopian tube was distended with thick inspissated pus to the size of a sausage. The left ovary was as large as a small Tangerine orange, cystic, and with hæmorrhagic extravasation into it. The right tube was about as thick as a man's thumb, and contained the same kind of cheesy pus as the left. The right ovary was double the normal size, and was studded with collections of pus the size of peas. The patient made a rapid and complete recovery, and is now putting on flesh and feeling well.

The next case is instructive and interesting, as the pedicle ligature slipped soon after completion of the operation. Hæmorrhage (which was not diagnosed) took place, and death followed two days later.

Case 29.—Mrs. J—— was admitted to hospital complaining of dysmenorrhœa, pains in the back and the left side, leucorrhœa, and general ill-health. Married thirteen years; has had three children. On admission the uterus was retroverted, and not easily replaced; there were thickening and tenderness in the region of both broad ligaments. She was treated for several weeks with hot douches, glycerine tampons, blisters, and aperients. When re-admitted two months later the patient was no better, so abdominal section was performed. The ovaries and tubes were adherent in the pelvis; they were removed and the pedicles were treated in the ordinary way. Half an hour after the operation the patient was very collapsed; pulse feeble, regular (70); unconscious; no distension of abdomen. Temperature 96·4°. Hot blankets were applied, ether injected, and as she seemed to rally I was not sent for.

An hour and a half after the operation reaction had well set in; lips good colour; pulse strong and full (80). A morphia suppository of a quarter of a grain was given. I saw the patient three hours and a half after operation. She appeared quite satisfactory, no signs whatever to indicate internal hæmorrhage. The next day she seemed comfortable; the temperature was 100°. Slight tenderness of abdomen; no distension; resonant all over; no sickness. Towards evening the temperature went up to 102·4°, and next day (the second after the operation) the patient was evidently worse; pulse rapid, weak (136); abdominal pain, tenderness, and distension. Diagnosing peritonitis, I reopened the abdomen to wash out the cavity, and was horrified to find it full of blood; the broad ligament was rapidly seized, the blood and clots cleared out, pedicle securely retied, abdominal cavity irrigated, a drainage tube inserted, and the wound quickly reclosed. In spite of all efforts at stimulation the patient never rallied, but died six hours after.

Let us now 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 (either accidentally or designedly), and about the treatment of which there is (unluckily for the sufferer) a great diversity of opinion.

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

FIG. 4.—A.

A.—Section of Fallopian tube in case of pyo-salpinx (Wyder).—Mucous and muscular coats hypertrophied; ciliated epithelium lost, except in depressions between papillæ; superficial layer of mucosa replaced by round cell granulation tissue; deep layer made up of spindle-celled tissue

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 this drawing (Fig. 4) taken from the beautiful plates of Wyder of Berlin. The mucous

FIG. 4.—B.

B.—Section of Fallopian tube in case of hæmato-salpinx (Wyder). Loss of epithelium, except in the depressions between the papillæ; round-celled tissue not so well marked as in A. Rich net-work of capillaries engorged with blood, and extending close up to the surface of the mucosa. Extravasations of blood at different parts.

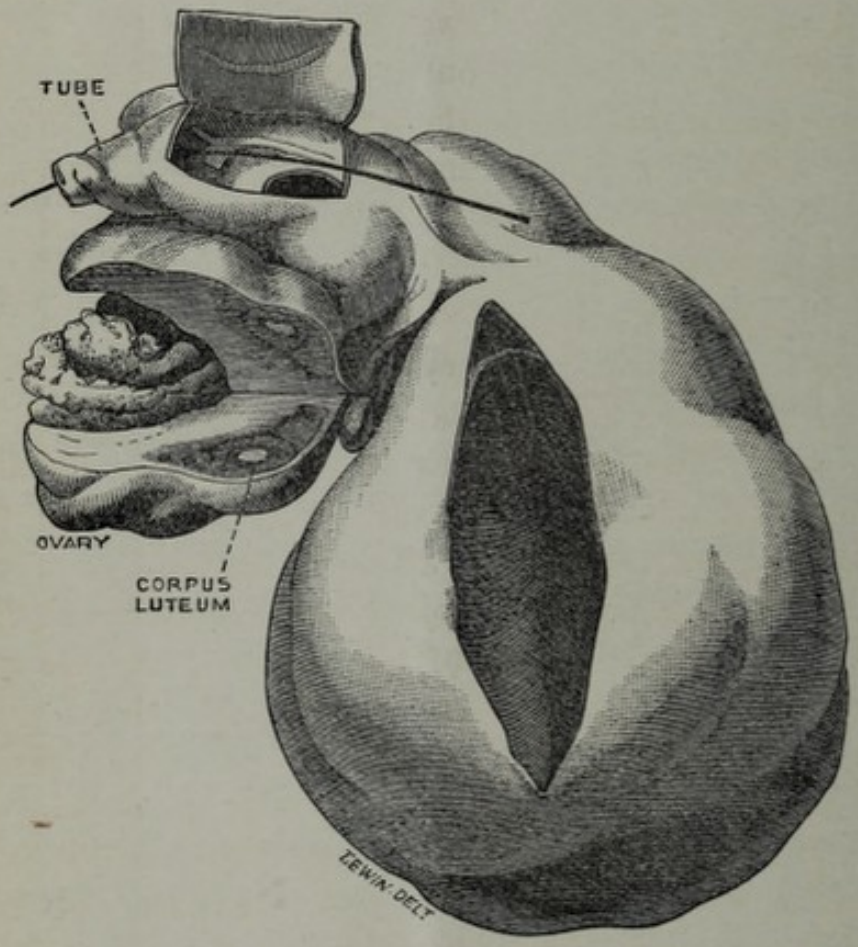
and muscular layers are hypertrophied. The folds of the mucous membrane do not show the normal complicated

appearance. Single papillary elevations are seen separated from one another by gland-like 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 up 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 get gradually thinned out, and finally we have a hydro-salpinx 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 cyst contents consist of pus forming a pyo-salpinx. 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 hæmato-salpinx. This condition is shown in some of the specimens on the table, and the microscopical appearances are well illustrated in this drawing of Wyder (Fig. 4).

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

FIG. 5.



Intermitting hydro-salpinx; Left Fallopian tube and ovary.—*Tube* greatly distended and coats thinned; abdominal ostium closed; uterine end (through which bristle is passed) patent. *Ovary* enlarged, adherent to tube. It contains a corpus luteum and a blood-clot.

condition is known as intermitting hydro- or pyo-salpinx, and may go on for an indefinite time unless cured by abdominal section. To explain the phenomena we have only to remember that dilated tubes sometimes undergo axial rotation in precisely the same manner as ovarian tumours; this rotation

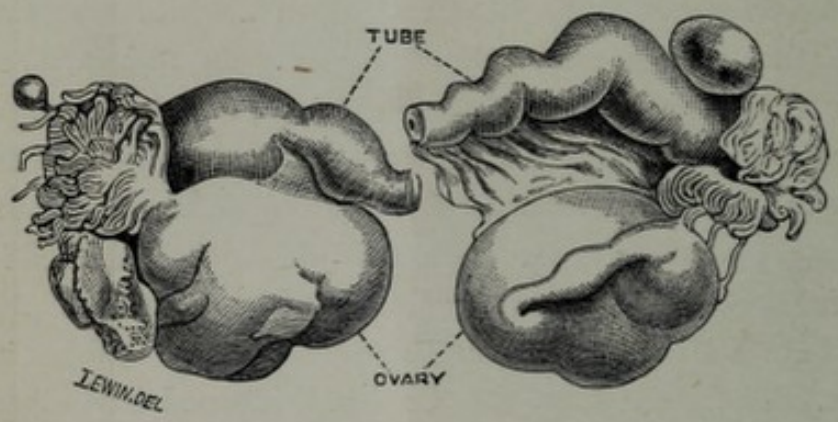
occludes the uterine end of the tube, which, when further dilated, partly unwinds itself and thus allows the escape of some of its contents.

This specimen (Fig. 5), which I removed quite recently from a patient in the Middlesex Hospital, is such a typical example of intermitting hydro-salpinx, and, as it cannot fail to convince the most sceptical, I will briefly relate the case.

M. A——, aged thirty-six, was married at twenty, 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 lay up three weeks. Nine months afterwards she began to have a white discharge between the periods, and this 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 intermittent 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 of much 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 the hospital three days later the swelling was considerably reduced in size, and she said that she had had a large gush the previous day. On performing abdominal section

I removed the hydro-salpinx now shown. 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 inter-

FIG. 6.



Ovaries and tubes matted together by adhesions.—*Ovaries* cirrhotic; coats of tubes thickened from chronic salpingitis.

mitting hydro- or pyo-salpinx, 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 was fixed, and it was noted that the left tumour diminished in size coincidently with the discharge of pus. Little could be made out

Thirty consecutive Cases of Abdominal Section for Chronic Disease of the Uterine Appendages (one fatal from Hæmorrhage).

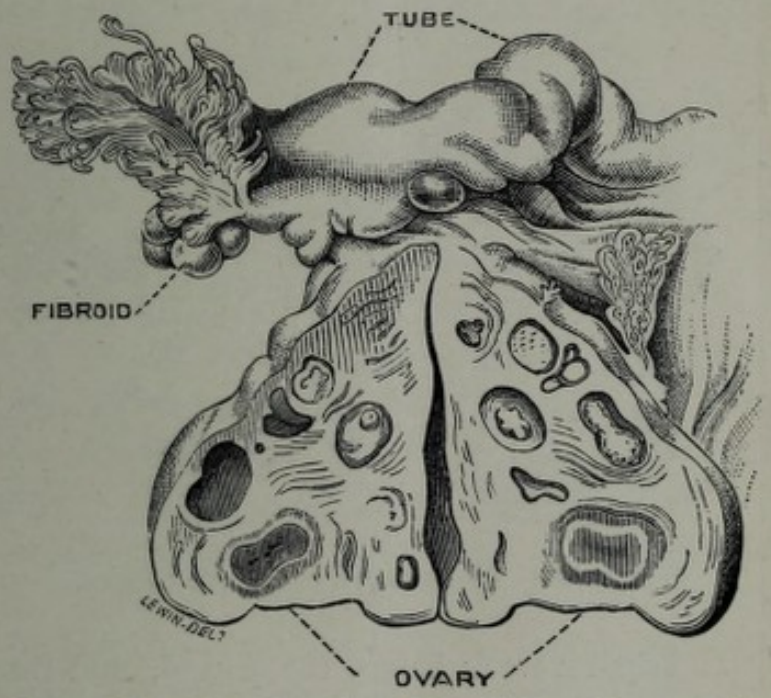
No.	Name.	Age.	State.	Symptoms.	Duration.	Physical signs.	Where operated on.	Parts removed.	Result.	Remarks.
1	A. L.	20	Single.	Great dysmenorrhœa; painful defecation.	7 years.	Elastic tumour, size of orange, left side of pelvis.	Waterloo road Hospital.	Left hydro-salpinx; both ovaries enlarged; cystic.	Recov.	Perfect health two years later.
2	Mrs. H.	30	Marr.	Constant backache; pelvic pain.	6 „	Two elastic, tender, fixed tumours in pelvis.	Middlesex Hospital.	Double hydro-salpinx; both ovaries cystic.	„	Ditto.
3	Mrs. L.	32	„	Menorrhagia; constant pelvic pain.	4 „	Retroflexed fixed uterus; distended left tube.	Private.	Left pyo-salpinx; right salpingitis; ovaries cystic.	„	Universal adhesions; operation very difficult; ultimate result excellent.
4	Mrs. W.	25	„	Left ovarian pain; constant backache.	5 „	Uterus, ovaries, tubes, fixed posteriorly.	Middlesex Hospital.	Left salpingitis and ovaritis.	„	Right appendage not removed.
5	F. B.	24	Single.	Left ovarian pain; great dysmenorrhœa.	6 „	Elastic tumour, size of orange, on left side.	Ditto.	Left ovarian cyst; left salpingitis.	„	Right appendage separated from adhesions and left.
6	Mrs. S.	25	Marr.	Chronic severe pelvic pain.	4 „	Elastic tumour to right of uterus, size of orange.	Private.	Suppurating dermoid of right ovary.	„	Tumour universally adherent; ultimate result perfect.
7	Mrs. P.	21	„	Dysmenorrhœa; dyspareunia; menorrhagia.	18 mnths.	Sausage-shaped tumour on right; left tube thickened.	Private.	Right hydro-salpinx; left ovaritis and salpingitis.	„	Ditto. Ditto.
8	J. T.	26	Single.	Menorrhagia; dysmenorrhœa; leucorrhœa.	5 years.	Uterus retroverted; both ovaries large; prolapsed.	Middlesex Hospital.	Both ovaries large; left pyo-salpinx; right hæmato-salpinx.	„	Dense adhesions; perfect health resulted.
9	Mrs. H.	27	Marr.	Constant pelvic pain; dyspareunia.	17 mnths.	Cystic swelling on right; left appendage enlarged.	Private.	Right hydro-salpinx; left salpingitis and ovaritis.	„	Universal adhesions; present health perfect.
10	Mrs. B.	34	Widow.	Menorrhagia; right pelvic pain.	18 „	Uterus retroverted; prolapsed, thickened, and fixed appendages.	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.	Ditto.	Ditto.	„	Suppuration in abdominal wall; retarded convalescence.
12	Mrs. A.	35	Marr.	Left pelvic pain; yellow discharge.	2 „	Uterus retroverted; tender swelling to left.	Ditto.	Left appendage matted; much diseased.	„	Ditto.
13	Mrs. V.	33	„	Severe dysmenorrhœa and menorrhagia.	10 „	Ditto.	Ditto.	Large fibro-cystic left ovary; left hydro-salpinx.	„	Ultimate result good.
14	Mrs. D.	30	„	Chronic pelvic pain; offensive yellow discharge.	7 „	Elastic tumour big as fist on left side.	Ditto.	Left ovary and tube matted together; right ditto.	„	Ditto.
15	Mrs. A. E.	22	„	Menorrhagia; severe dysmenorrhœa.	1 year.	Irregular swelling on right.	Waterloo road Hospital.	Right hydro-salpinx; left salpingitis and ovaritis.	„	Ditto.
16	Miss F.	22	Single.	Intense pelvic pain and dysmenorrhœa.	2 years.	Both appendages prolapsed, enlarged, and fixed.	Private.	Ovaries and tubes enlarged and matted together.	„	Cause: pelvic peritonitis following chill; present health excellent.
17	Mrs. M.	37	Marr.	Pelvic pain; dysmenorrhœa; leucorrhœa.	1 year.	Round tumour, size of orange, anteriorly.	Middlesex Hospital.	Ovarian tumour full of blood; twisted pedicle.	„	Three tight twists held fast by adhesions.
18	C. B.	26	Single.	Constant left pelvic pain.	19 mnths.	Prolapsed; enlarged ovaries.	Ditto.	Fibro-cystic ovaries size of horse-chestnuts.	„	Ultimately recovery good.
19	Mrs. M. P.	44	Marr.	Severe pelvic pain; leucorrhœa.	5 years.	Uterus retroflexed; appendages prolapsed; enlarged.	Ditto.	Both tubes distended; adherent to ovaries.	„	Ditto.
20	B. B.	31	Single.	Menorrhagia; dysmenorrhœa; leucorrhœa.	3 „	Enlarged, prolapsed ovaries.	Ditto.	Ovaries large, fibrous, cystic; tubes normal.	„	Present health excellent.
21	A. S.	23	Single. primip.	Constant pelvic pain; yellow discharge.	2 „	Uterus retroflexed; fixed; appendages fixed.	Ditto.	Nothing removed.	„	See note below. *
22	Mrs. S.	35	Marr.	Left pelvic pain; dysmenorrhœa.	15 mnths.	Uterus retroflexed; fixed; appendages enlarged; prolapsed.	Ditto.	Both ovaries cirrhotic; both tubes dilated.	„	Dense universal adhesions; fixed uterus replaced; ultimate result good.
23	E. B.	20	Single.	Chronic pelvic pain; menorrhagia.	4 years.	Right ovary atrophied; tender; general pelvic tenderness.	Ditto.	Both ovaries ill-developed; very small.	„	Uterus ill-developed; present health satisfactory.
24	Mrs. H.	25	Marr.	Left pelvic pain; constant discharge.	4 „	Ovaries and tubes fixed in pelvis.	Ditto.	Ovaries and tubes matted together.	„	Present health excellent; constipation only trouble.
25	Mrs. W.	27	„	Menorrhagia; dysmenorrhœa.	1 year.	Uterus fixed; broad ligaments thickened.	Waterloo road Hospital.	Left ovary apoplectic; double hydro-salpinx.	„	Present health good.
26	Mrs. E.	20	„	Menorrhagia; severe backache.	1 mnth.	Tense swelling to left of uterus.	Private.	Large apoplectic ovary; left hæmato-salpinx.	„	All signs and symtoms of tubal gestation; now quite well.
27	Mrs. M.	22	„	Severe pelvic pain; collapse.	5 weeks.	Tumour filling left side of pelvis.	Private.	Large apoplectic left ovary; double pyo-salpinx.	„	
28	Mrs. H.	20	„	Menorrhagia; dysmenorrhœa.	13 mnths.	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.	Right pedicle ligature slipped; extensive hæmorrhage.
30	Mrs. S.	37	„	Pelvic pain; menorrhagia; dysmenorrhœa.	6 mnths.	Cystic swelling.	Waterloo road Hospital.	Double hæmato-salpinx; right ovary apoplectic; left ovary cirrhotic.	Recov.	Present health good.

* Case 21 was operated on twice; first time, the appendages were so firmly adherent and the abdominal parietes several inches thick, that it seemed impossible to remove the disease. Troublesome suppuration in abdominal wall retarded convalescence. Four months later patient returned, begging that something more should be done 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*.

on vaginal examination, owing to the pelvic inflammation. I diagnosed double pyo-salpinx, 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.

Passing on now to diseases of the ovary, the first and most common is *chronic ovaritis*. This may either be secondary to the acute form, or it may be due to extension of inflammation

FIG. 7.

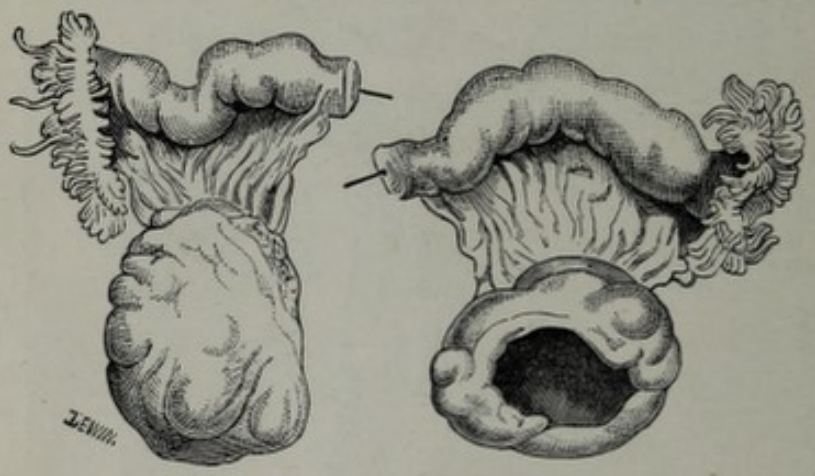


Chronic ovaritis and salpingitis.—Tube thickened; ovary hypertrophied, fibrous, and full of cysts in its interior.

from the uterus and tube, or as a result of peritonitis and peri-ovaritis. 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 (Fig. 6). 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 (Fig. 7), 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 do occur the uterus is, in my experience, likewise ill-developed. The subjects of this condition may be fine handsome women, but they suffer from dysmenorrhœa, and if married are sterile. This drawing (Fig. 8) shows the condition well. I removed the specimen five years ago from a young woman aged twenty-one, who consulted me for intense dysmenorrhœa. She began to menstruate at seventeen, always lost only very little for two days, but she described the pain she suffered as "fearful

FIG. 8.



Congenitally ill-developed and cystic ovaries.

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 at all 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 anteflexed; the sound entered two inches; nothing else abnormal 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. Subsequently to this the following two periods were less painful, but then all the old trouble returned. 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 thirty-one years of age, has been married ten years, and has never been pregnant. The catamenia began when she was sixteen years old; they have always been very 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 is small and normal in position; the right ovary can be easily palpated, and feels 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 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 gynæcologists consider it absolutely worthless as a generator of electricity.

"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.

The *symptoms* of diseased appendages are essentially two—viz., 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

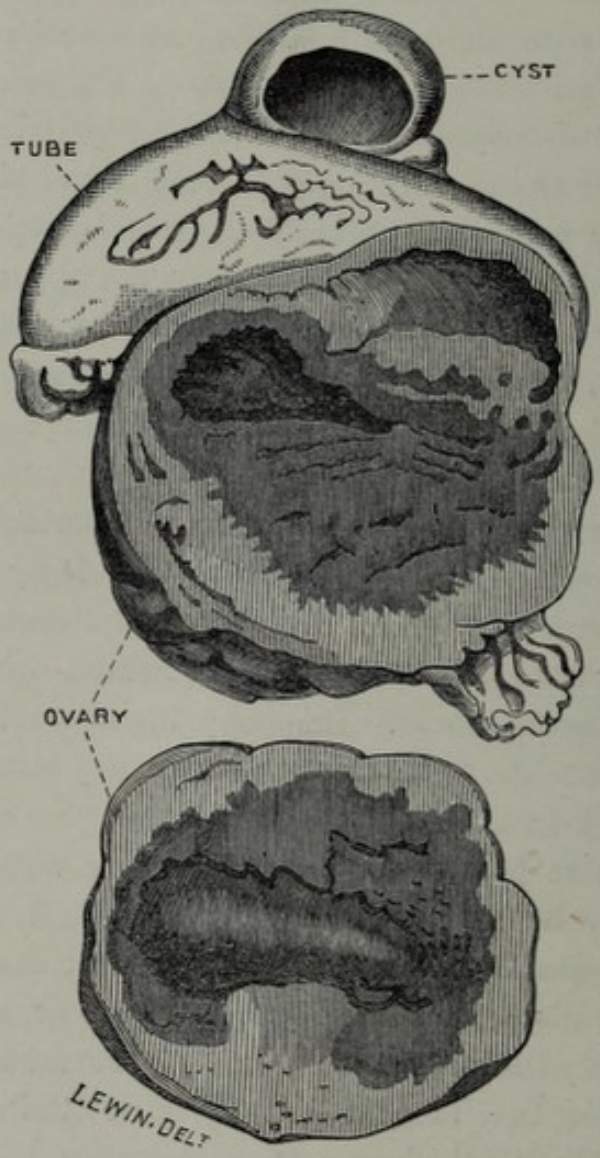
was so intense that they have been compelled to lead a single life for months.

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 diapers used to be sufficient, now they require from 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-salpinx or pyo-salpinx.

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 the 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; then their detection is possible even to the *tactus non eruditus*. When enlarged ovaries and tubes are matted together by old pelvic adhesions (see Fig. 9), 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

FIG. 9.



Chronic peritonitis. — Ovary and tube matted together; ovary (shown in section) much enlarged and full of blood; tube dilated.

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 a 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-salpinx or pyo-salpinx 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 pyo-salpinx 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 pyo-salpinx is in constant danger of its setting up acute and fatal peritonitis; even a hydro-salpinx 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 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.—1. 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. 2. 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. 3. 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 the removal of the appendages, provided the patient suffers sufficiently to run the risk of the operation. 4. 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. 5. In cases of congenitally ill-developed ovaries with an acutely anteflexed 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 married 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. 6. 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. 7. 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 ovariotomy; indeed, in a very small proportion the operation may have to be abandoned, as occurred to me in Case 21. Hence the tyro in abdominal surgery ought not to attempt operating on these cases. Again, it is most essential that the patient and her immediate relatives 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 ovariotomy 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 into a 1 in 2000 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.

Ligaturing the broad ligament in these cases requires more

care than the pedicle in ovariotomy, 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 hæmorrhage after ovariotomy. 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, and found the ligature had slipped; so after retying securely, I 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 indiarubber 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 silk and over the rest of the abdomen; plenty of sal alembroth 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 one-third grain morphia suppository is given and repeated when necessary. Morphia 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 she is allowed to sit up in bed. So much for ordinary cases. 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 her a dose of white mixture, and repeated it every two hours until the bowels acted. The effect was marvellous. She was only slightly sick, 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 indiarubber 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 (and reported in the *Lancet*, vol. i. 1889, p. 16) 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 flatus 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 that 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 boracic 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 recommended 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.