A FOURTH SERIES
OF
ONE HUNDRED CASES OF OVARIOTOMY,
WITH REMARKS ON THE
DIAGNOSIS OF UTERINE FROM OVARIAN TUMOURS.

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NEARLY two years ago a paper entitled "A Third Series of One Hundred Cases of Ovariectomy, with Remarks on Tapping Ovarian Cysts," was read before this Society, and was afterwards published in the fifty-second volume of the 'Transactions.' In that paper, and in others published in the forty-sixth, forty-eighth, and fiftieth volumes, every case in which I have completed the operation of ovariectomy, and every case where I have commenced but have not completed it, or have made an exploratory incision when the diagnosis was doubtful, have been arranged in tables from the first to the three hundredth case.

I have now the honour of bringing before the Society a fourth series of one hundred cases in which ovariectomy was completed, six cases where it was commenced but not completed, and seven cases where an exploratory incision was made. The tables are arranged in the same form as in previous papers.

TABLE OF CASES.

SERIES I.—Cases in which Ovariectomy was completed—100 cases : 78 recoveries, 22 deaths.

” II.—Cases in which Ovariectomy was commenced, but not completed—6 cases : 2 relieved or cured,
4 died.

” III.—Cases where an Exploratory Incision was made—7 cases : 5 recovered from incision, 2 died.

Series I.—Cases in which Ovariectomy was completed.

No.	Medical attendant.	Date.	Age.	Condition.	Adhesions.	Treatment of pedicle.	Weight of fluid or tumour.		Length of incision.	Results.
							Pounds.	Inches.		
301	Hospital	1869 Jan.	49	Married	Parietal. Ruptured cyst	Pins and ligature ...	27	6		Recovered.
302	Hospital	Feb.	41	Married	Parietal	Clamp	49	6		Recovered.
303	Mr. Ewen, Wisbeach	Feb.	25	Single	None	Clamp	12	4		Recovered.
304	Dr. Jackson, Oxford	Feb.	49	Married	Parietal	Clamp	21	7		Recovered.
305	Dr. Gream	Feb.	55	Single	Parietal and pelvic...	Clamp and ligatures	22	7		Died, 26 hours.
306	Hospital	Feb.	29	Married	Parietal, omental, & intestinal	Ligature	39	7		Died, 4th day.
307	Hospital	Feb.	48	Widow	None	Clamp	41	4		Recovered.
308	Hospital	Feb.	49	Married	Parietal and pelvic— Both ovaries	Clamp and ligature...	19	5		Recovered.
309	Hospital	March	40	Married	Parietal	Pins and ligature ...	36	9		Died, 50 hours.
310	Hospital	March	59	Married	None.—Burst cyst...	Clamp	11	6		Recovered.
311	Dr. Leadam	April	38	Widow	Omental	Clamp	13	5		Recovered.
312	Hospital	April	54	Single	Parietal and omental	Clamp	12	5		Died, 5th day.
313	Hospital	April	35	Single	Parietal & mesenteric	Clamp	13	6		Died, 7th day.
314	Dr. Oldham	May	25	Single	None	Clamp	18	4		Recovered.
315	Mr. Squire	May	20	Single	None.—Burst cyst...	Clamp	13	5		Recovered.
316	Mr. Stevens, Christchurch ..	May	36	Single	Parietal and omental	Clamp	40	5		Died, 4th day.

317	Mr. Livy, Bolton	May	30	Single	None	Clamp	9	4	Died, 5th day.
318	Dr. Ridley, Canada	May	38	Married	None	Cautery	13	4	Recovered.
319	Hospital	May	22	Single	None. Both ovaries.	Clamp and ligature.	11	4	Recovered.
320	Dr. Braxton Hicks	May	39	Married	Omental and pelvic— Both ovaries	Clamp and ligature.	20	6	Recovered.
321	Sir W. Jenner, Bart.	June	27	Married	None	Clamp	19	5	Recovered.
322	Hospital	June	24	Married	Parietal and pelvic— Both ovaries	Ligatures	22	8	Died, 28 hours.
323	Dr. Nethe, Neuhaldensleben	June	42	Married	Intestinal	Clamp	26	6	Recovered.
324	Dr. Fitzpatrick	June	30	Single	Omental—Burst cyst	Clamp	18	4	Recovered.
325	Dr. Quain	June	50	Single	Parietal and pelvic— Burst cyst	Clamp	9	5	Died, 17 hours.
326	Dr. Burrows	June	47	Married	Omental & intestinal	Clamp	26	6	Recovered.
327	Dr. Greenhalgh	June	48	Married	Omental and parietal —Burst cyst	Clamp	23	6	Died, 3rd day.
328	Hospital	June	41	Married	None	Ligature	18	4	Died, 3rd day.
329	Hospital	June	27	Married	Parietal and omental	Clamp	23	6	Recovered.
330	Mr. Bateman	Aug.	36	Married	Omental—Burst cyst —Pregnancy	Clamp	37	7	Recovered.
331	Mr. Corner, Poplar	Aug.	30	Single	Parietal, omental, and intestinal	Clamp	22	6	Recovered.
332	Mr. Symonds, Oxford	Aug.	54	Single	None	Clamp	22	5	Recovered.
333	Mr. Clarke, Huddersfield	Sept.	23	Single	None	Clamp	6	4	Recovered.
334	Hospital	Oct.	32	Single	None	Clamp	17	4	Recovered.
335	Dr. Gervis	Oct.	37	Single	None	Clamp	6	4	Recovered.
336	Hospital	Oct.	43	Married	None—Burst cyst	Clamp and ligature.	20	6	Recovered.
337	Hospital	Nov.	26	Single	Parietal and omental	Clamp	21	4	Recovered.
338	Dr. Case, Farham	Nov.	18	Single	None	Clamp	16	3	Recovered.
339	Dr. Rayner, Stockport	Nov.	31	Married	None	Clamp	21	4	Recovered.
340	Hospital	Nov.	46	Married	Parietal & intestinal	Clamp	24	6	Died, 26 hours.
341	Hospital	Nov.	29	Single	Intestinal	Ligature	19	4	Recovered.
342	Hospital	Dec.	35	Single	None	Clamp and ligature.	14	4	Recovered.
343	Dr. Ramskill	Dec.	54	Married	Omental	Clamp	16	4	Recovered.
344	Hospital	Dec.	51	Married	Omental & intestinal	Cautery and ligature	13	6	Recovered.

No.	Medical attendant.	Date.	Age.	Condition.	Adhesions.	Treatment of pedicle.	Weight of fluid or tumour.	Length of incision.	Results.
		1870					Pounds.	Inches.	
345	Mr. Crompton, Birmingham...	Jan.	39	Single	Pelvic	Clamp and ligature...	13	5	Recovered.
346	Dr. Symonds, Clifton.....	Jan.	48	Single	Parietal	Clamp	24	5	Recovered.
347	Hospital	Jan.	42	Married	Parietal and omental	Clamp	23	5	Recovered.
348	Dr. West.....	Jan.	34	Single	To cæcum	Clamp and ligature— Both ovaries	12	3	Recovered.
349	Hospital	Jan.	24	Single	Omental and parietal	Clamp	33	4	Died, 4th day.
350	Hospital	Feb.	47	Widow	Parietal	Clamp and ligature...	23	5	Died, 39 hours.
351	Sir J. Alderson	Feb.	40	Single	None	Clamp	16	4	Recovered.
352	Mr. Cockcroft, Darlington ..	Feb.	28	Married	None	Clamp	28	4	Recovered.
353	Dr. Priestley	Feb.	20	Single	None	Clamp and ligature— Both ovaries	18	4	Died, 5th day.
354	Hospital	March	22	Single	Omental	Clamp	33	8	Recovered.
355	Sir W. Jenner, Bart.....	March	63	Widow	Omental	Ligature	42	6	Died, 6th day.
356	Hospital	March	48	Married	None	Clamp	11	4	Died, 4th day.
357	Hospital	April	37	Married	None	Clamp	17	6	Recovered.
358	Mr. Beckingsale, Newport ...	April	53	Married	Omental & intestinal	Clamp and ligature...	35	6	Died, 18th day.
359	Dr. Evans, Birmingham	April	61	Single	Omental, intestinal, and parietal	Clamp	33	6	Recovered.
360	Hospital	April	32	Married	Omental	Clamp	29	6	Recovered.
361	Mr. Tweddell, Houghton-le- Spring	April	46	Married	None	Clamp	22	5	Recovered.
362	Hospital	April	22	Married	Omental	Ligature	6	5	Recovered.
363	Dr. Gull	May	53	Widow	None	Clamp	21	5	Recovered.
364	Mr. Barkway, Bungay	May	42	Married	Parietal and omental	Clamp	18	5	Recovered.
365	Hospital	May	45	Married	Parietal	Clamp	56	6	Died, 3rd day.
366	Hospital	May	27	Single	Parietal and omental	Ligature	11	5	Recovered.
367	Dr. Kinneir, Malmesbury	May	29	Single	None	Clamp	22	5	Recovered.
368	Dr. Miller, Blackheath	May	25	Married	Parietal	Clamp	17	5	Recovered.
369	Hospital	May	47	Married	Parietal and omental	Clamp	27	6	Recovered.

370	Hospital	June	33	Married	None	Clamp	15	5	Died, 32 hours.
371	Dr. Welch, Southampton	June	34	Married	None	Clamp	28	5	Recovered.
372	Dr. Collyer, Enfield	June	28	Married	None	Clamp	30	7	Recovered.
373	Dr. Unna, Hamburg	June	44	Married	Omental and pelvic	Ligature	6	7	Recovered.
374	Hospital	June	40	Single	None	Clamp	12	6	Recovered.
375	Hospital	June	32	Married	Parietal	Clamp	7	6	Recovered.
376	Hospital	July	32	Married	Parietal and omental	Clamp	22	6	Recovered.
377	Mr. Pyne, Royston	July	42	Married	None	Clamp	28	5	Recovered.
378	Hospital	July	38	Single	Omental	Clamp and ligature— Both ovaries	16	5	Died, 4th day.
379	Dr. Cole, Bath	July	27	Single	None	Clamp	10	5	Recovered.
380	Dr. West	Aug.	18	Single	Omental	Clamp	16	5	Recovered.
381	Dr. Swain, Birmingham	Aug.	29	Single	None	Clamp	21	4	Recovered.
382	Hospital	Aug.	31	Married	Omental	Clamp	21	5	Recovered.
383	Mr. Belcher, Burton	Aug.	26	Single	None	Clamp	25	5	Recovered.
384	Mr. Godson	Aug.	43	Widow	Parietal	Clamp	29	5	Recovered.
385	Hospital	Oct.	24	Single	Omental	Clamp	26	5	Recovered.
386	Mr. Roberts, Portmadoc	Oct.	53	Married	None	Clamp	13	5	Recovered.
387	Dr. Orsborn, Bittern	Oct.	59	Widow	Parietal	Clamp	11	5	Recovered.
388	Dr. Smith, Weymouth	Oct.	52	Single	None	Clamp and ligature— Both ovaries	24	5	Recovered.
389	Hospital	Oct.	36	Married	Parietal	Clamp	11	5	Recovered.
390	Mr. Gibson, Norwich	Oct.	63	Single	Parietal	Clamp	26	5	Recovered.
391	Hospital	Oct.	53	Married	None—Burst cyst	Clamp	44	5	Died, 35 hours.
392	Hospital	Oct.	42	Married	Parietal	Clamp	47	5	Recovered.
393	Hospital	Nov.	30	Single	None	Clamp	7	5	Recovered.
394	Dr. Prince	Nov.	50	Single	Parietal	Clamp	11	5	Recovered.
395	Dr. Smith, Weymouth	Nov.	51	Widow	None	Clamp	23	5	Recovered.
396	Hospital	Nov.	23	Single	Parietal and omental	Clamp	7	5	Recovered.
397	Mr. Morris, Edmonton	Nov.	50	Married	None—Burst cyst	Ligature	...	5	Recovered.
398	Hospital	Dec.	65	Married	Parietal, omental, and intestinal	Clamp	66	8	Recovered.
399	Mr. Goddard	Dec.	29	Married	None. Pregnant	Clamp	15	5	Recovered.
400	Dr. Thetford	Dec.	34	Married	Parietal—Burst cyst	Clamp	28	5	Recovered.

Series II.—Cases in which Ovariectomy was commenced but not completed.

No.	Medical attendant.	Date.	Age.	Condition.	History, &c.	Results.
1	Dr. Royston	1869 Feb.	53	Widow	An adherent multilocular ovarian cyst opened, fixed to the abdominal wall, and drained.	Died, 20th day.
2	Mr. Jones, Epsom	Feb.	54	Single	Peritoneal fluid removed, and a burst adherent cyst completely emptied. Nothing more done, as cancerous nodules were scattered all over the peritoneum.	Died, 3rd day.
3	Hospital	May	34	Married	Peritoneal fluid removed. Adherent papilloma of both ovaries left undisturbed.	Left hospital, 25 days after.
4	Mr. Erichsen	May	54	Single	Part of a large adherent multilocular cyst removed. Adhering pelvic portions left, ligatures maintaining drainage.	Died, 8th day.
5	Dr. Bacelli, Rome	1870 Nov.	31	Married	Part of an adhering cyst removed. Remaining portion secured by ligature, the ends keeping up drainage.	Died, 22 hours.
6	Dr. Budd, Clifton	Dec.	26	Single	Adherent cyst of right ovary or broad ligament opened, emptied, fixed to abdominal wall, drained, and cure obtained by suppuration.	Recovered.

Series III.—Cases where an *Exploratory Incision* was made.

1	Mr. Turner, Manchester.....	1869 June	24	Single	A large solid glandular or fibro-plastic tumour exposed, but not disturbed.	Recovered and returned home, but died 13 months after.
2	Hospital	Nov.	25	Married	Ascitic fluid removed. Small tumour of left ovary and large uterine fibroid, not disturbed.	Recovered, and left hospital on 17th day.
3	Hospital	1870 Feb.	30	Married	Forty-five pints ascitic fluid removed. Papilloma of both ovaries involving uterus, not disturbed.	Died 40 hours after incision. The tumour apparently sprang from the peritoneal coat of the uterus.
4	Hospital	Feb.	26	Married	A fibro-cystic tumour exposed and examined. Perchloride of iron and twisted suture used to stop bleeding from large veins.	Died, 8th day. Uterus and ovaries healthy. The tumour, a fibro-plastic growth, originating in the serous membrane, and involving intestines, omentum, and liver.
5	Mr. Lowe, Lynn.....	March	44	Married	Peritoneal fluid evacuated by a small incision. Cystoid cavity formed by adhering coils of intestine and thickened peritoneum.	Recovered.
6	Hospital	June	43	Married	An incision made to complete diagnosis, and a fibroid tumour of the uterus was not disturbed.	Recovered from incision. Left hospital, 23rd day.
7	Hospital	Dec.	35	Single	Patient moribund with dyspnoea and anasarca. Incision made to ascertain nature of abdominal tumour. Fibro-plastic growth not disturbed.	Relieved by drainage of serum from cellular tissue. Died 2 months after. Tumour weighed 84 pounds.

It is very satisfactory to find that the mortality after ovariectomy is steadily diminishing. Of my first 100 cases, thirty-four died; of the second 100, twenty-eight; of the third 100, twenty-three; and of the fourth, twenty-two.

In this fourth series the advantage has been greatly among the private patients; the mortality with them having been only 14 per cent., while in hospital it was 31 per cent. The numbers were—

		Cases.		Recovered.		Died.		Mortality per cent.
Hospital	...	44	...	30	...	14	...	31·81
Private	...	56	...	48	...	8	...	14·28

If this greater mortality in hospital should be found to prevail in future, in spite of careful precautions to avoid all known preventable causes of mortality, it will become a serious question whether a more complete system of isolation ought to be obtained than is possible in an hospital even so small as the Samaritan. Of the last forty cases in this series there was not one death in private practice, while there were twenty-four cases all recoveries, the only deaths having been in hospital.

These facts may encourage the hope for still more favorable results as experience and knowledge increase. Ten years ago, an estimated mortality of even 22 per cent. would have been received as far too favorable. Yet it has been attained; and, after very full consideration, I venture to express the conviction that the mortality may be reduced to 15, or perhaps to 10 per cent., without excluding those extreme cases in which the operation is performed as a forlorn hope.

In former papers published in the 'Transactions' I have added to the tables, remarks "On the History and Progress of Ovariectomy in Great Britain," "On the Selection of Cases for the Operation," "On the Situation and Length of the Incision," and "On Tapping Ovarian Cysts." I now propose to offer a few remarks "On the Diagnosis of Uterine from Ovarian Tumours," a difficulty which frequently arises in practice, which may often be solved with great ease, which as often requires much cautious investigation, and which in some cases can only be cleared up by an exploratory incision.

In the following remarks I purposely exclude all reference to pregnancy, only intending to point out that large tumours of the non-gravid uterus may be mistaken for ovarian tumours, and attempting to explain how they may be distinguished from each other.

It is only since ovariectomy has become a familiar operation that the fact of uterine tumours frequently attaining a very large size has become generally known. Even now I am often told by men of great experience that a tumour must be ovarian because it is too large to be uterine. They have never seen nor heard of any such enlargement of the uterus, and are astonished when I say that the largest abdominal tumours I have ever seen have been fibroid or fibro-cystic tumours of the uterus.

In one of the earliest attempts to perform ovariectomy in Great Britain, in 1825, Mr. Lizars fell into this error of diagnosis. He opened the abdomen, and found a large uterine tumour. And the first tumour supposed to be ovarian which was removed in London—by Dr. Granville, in 1827—proved to be a fibroid tumour of the uterus, weighing eight pounds. Of the eight first published cases by Koeberle of removal of uterine tumours by gastrotomy, in only three was the diagnosis of uterine tumour made accurately before operation. In two the diagnosis was doubtful, and in three the tumour was believed to be ovarian. Indeed, more than a hundred cases are on record where the abdomen has been opened with the object of removing an ovarian tumour, but the operator discovered, after making the incision, that the tumour was not ovarian, but uterine. And further—some of the tumours actually removed, and believed by the operator to be ovarian, have been proved on careful examination to be really fibroid outgrowths from the uterus, more or less pediculated. In one case of a pediculated fibro-cellular outgrowth from the fundus uteri, I only discovered what I had done by finding both ovaries healthy, and when this tumour was exhibited at one of our societies I had difficulty in convincing some of the fellows that it was not ovarian.

In the first volume of my work on ‘Diseases of the Ovaries,’

published in 1865, I have recorded cases where I removed large uterine tumours containing solid fibroid masses many pounds in weight, and cyst-like cavities containing more than 20 pints of fluid, these tumours being so far pediculated out-growths from the peritoneal surface of the uterus that the mobility of the cervix uteri was free, and no enlargement of the uterine cavity could be detected by the sound.

It is quite certain, therefore, that both uterine and ovarian tumours may lead to very great enlargement of the abdomen, and I can add from my own observation that the tumours may be central in position or inclined to one or other side; either round, ovoid, or irregular in form; smooth or lobulated on their surface; either hard, or elastic, or fluctuating; either tender or insensible to pressure; and either adhering to the abdominal wall or moving beneath it with or without crepitation.

It is also certain that there is nothing in the *history* of a doubtful case which affords any very decisive assistance in diagnosis; for although the increase of ovarian tumours is often rapid, it is almost as often slow; and if the increase of uterine tumours is generally slow, it is not infrequently rapid. Uterine hæmorrhage, either in the form of excessive menstruation or of floodings at irregular intervals, is certainly more common in uterine than in ovarian tumours, but is occasionally associated with the latter. Probably the rule is that menstruation is scanty when a tumour is ovarian, and excessive when it is uterine, but exceptions to this rule are numerous. And discharges of albuminoid fluids from the vagina at variable intervals are common in both classes of tumours.

So with the *age* of the patient. Perhaps uterine may be more common than ovarian tumours in old persons, and ovarian more common than uterine tumours in young persons; but it is certain that both uterine and ovarian tumours are common in single, married, and widowed women at all ages after puberty, and in all conditions of life.

They are also observed in some women who are extremely fat, in some who are otherwise healthy and well-nourished, and in some who are extremely emaciated; and

there is a facial expression common to women suffering from both classes of tumours, associated commonly with a very florid complexion when the tumour is uterine. In the majority of ovarian cases the complexion is pallid; but in some cases, where the patient is fat or well-nourished, the complexion may be florid.

Remembering the numerous exceptions to all the rules just stated, we may now inquire what may be learned by the eye, the touch, and the ear, in an examination of the abdomen; in other words, what are the signs afforded by inspection and measurement, by palpation, and by percussion and auscultation, which are of value in diagnosis. The results of this inquiry may be arranged in the following order.

Inspection.

1. Visible enlargement of the abdomen is more often *general* in cases of ovarian tumour, and *partial* in cases of uterine tumour, being confined to the lower part of the abdomen until a very large size has been attained.

2. The depression of the umbilicus is diminished, or the umbilicus may become prominent, in large ovarian cysts. This is rarely seen in uterine tumours unless fluid is also present in the peritoneal cavity.

3. Enlargement of the superficial veins of the abdominal wall, and œdema of the abdominal wall and of the lineæ albicantes, are more general in uterine than in ovarian tumours of moderate size, but are not uncommon when ovarian tumours have attained a very large size.

4. When the abdominal wall is thin, both uterine and ovarian tumours, if not very closely adherent to the abdominal wall, may be seen to move downwards as a recumbent patient inspires, and upwards during expiration, falling downwards and forwards as she sits or stands, and more or less to either side according to the inclination of her body. But nearly all uterine tumours, though visibly moving above, seem to be fixed below in the hypogastric region.

5. When a recumbent patient attempts to sit up without

aid from any other than the abdominal muscles, the recti are seen to bulge forward in front of a tense non-adherent ovarian tumour or with a flaccid adherent cyst. This is seldom well marked in uterine tumours, a solid mass fixed centrally below the umbilicus interfering with the free action of the recti.

Measurement.

6. Increase in the circular measurement of the abdomen is usually greater on one side than the other in ovarian tumours. In uterine tumours the increase is more often symmetrical. In both classes, vertical measurement shows the distance between the pubes and the sternum to be increased. But very great proportionate increase of the space from the pubes to the umbilicus is more common in uterine than in ovarian tumours.

Palpation.

7. Large masses of apparently solid matter, and smaller masses or nodules of very hard or bone-like substance, are sometimes observed in ovarian tumours. But it is excessively rare to find such solid portions *preponderating* in an ovarian tumour. As a rule, the fluid or cystic portion is the larger, the hard or solid portion the smaller, in ovarian tumours. In uterine tumours, on the contrary, the solid is the larger, the fluid the smaller, portion.

8. The mobility of ovarian tumours is generally greater from below upwards than that of uterine tumours, unless the latter are distinctly pediculated. If one hand be pressed backwards between the tumour and the pubes, an ovarian tumour can generally be raised considerably, and the hand can sometimes be pressed backwards almost to the brim of the pelvis; while a tumour which involves the body and neck of the uterus cannot be raised at all, or only with difficulty, and the hand cannot be pressed down between the pubes and the tumour.

9. When there is fluid free in the peritoneal cavity, and a hard tumour can be felt on displacing this fluid by sudden

pressure, the tumour may be either uterine or ovarian. If the tumour be very hard and the quantity of fluid small, the tumour is probably uterine and the fluid ascitic. An ovarian tumour which has given way, and emptied one or more of its cysts into the peritoneal cavity, is seldom hard or well-defined in outline, and the quantity of fluid is often so large that the size and shape of the tumour cannot be ascertained until after removal of the fluid by tapping. The characters of the fluid will then complete the diagnosis.

Percussion.

10. As percussion elicits a dull sound all over both uterine and ovarian tumours, which dulness ceases abruptly at the border or outline of the tumour in all positions of the patient—except in the rare cases where a cyst contains gas, or where a coil of intestine is adherent in front of a tumour—percussion cannot afford much aid in distinguishing ovarian from uterine tumours.

Auscultation.

11. In ovarian tumours the impulse from the aorta is often perceptible, and a sound sometimes accompanies the impulse. The sounds of the heart are rarely transmitted, and any distinct vascular murmur is excessively rare. But in about half the cases of uterine tumours which I have examined some variety of vascular murmur may be heard. In some cases the murmur is tubular, in others vesicular, and sometimes a tubular and a vesicular murmur may be heard in different parts of a uterine tumour. These murmurs are synchronous with the pulse. They may vary in intensity with the amount of pressure by the stethoscope, and may disappear on very firm pressure. Common in uterine, very rare in ovarian tumours, vascular murmurs are valuable aids in diagnosis.

Having thoroughly examined the abdomen, the pelvis is

next to be examined by the vagina and rectum, and a conjoined examination of the tumour by the abdomen and pelvis should also be made.

Examination of the vagina may at once remove all doubt, by showing that the os and cervix uteri are in a healthy state, that the uterus is normally mobile, that its cavity is neither elongated nor shortened, and that any tumour felt through the vaginal wall is independent of the uterus. In such a case the tumour is almost certainly ovarian. On the contrary, we may find the vagina more or less completely obliterated by a solid mass, the cervix uteri gone, the os reached with difficulty, the cervical canal so closed or distorted that the sound cannot be passed, or the uterine cavity so enlarged that the sound may pass many inches beyond the normal length. Here the tumour is almost certainly uterine.

But it must be remembered that considerable peritoneal outgrowths, or large growths within the walls of the fundus or body of the uterus have been observed, while the uterine cavity has remained unaltered in dimensions and the cervix in structure. And, on the other hand, the cervix may be drawn up out of reach, or the whole uterus may be elongated, when the connection with an ovarian tumour is close; or the lower portion of an ovarian tumour may be so moulded to the true pelvis that the uterus is pressed upwards and forwards, or flattened behind the pubes, so that the tumour and the uterus are either really or apparently inseparable from one another. Abnormal arterial impulse in the vagina and cervix uteri may be felt in both classes of tumours. But I have never felt the vascular thrill like that of varicose aneurism, occasionally felt in the lower segment of a fibroid uterus, in any ovarian tumour.

The vaginal walls may be so depressed, when there is much fluid free in the peritoneal cavity surrounding either a uterine or an ovarian tumour, as to form a vaginal rectocele. And the uterus may either remain above the brim of the pelvis if greatly enlarged, or if fixed by adhesion; or it may prolapse with the vagina, the os appearing at the most depending part of the protrusion. Here the uterine sound will generally

remove all doubt ; for if the dimensions of the uterine cavity are normal, and the weight of the uterus is not increased, the tumour can hardly be uterine. And a uterus which is not much enlarged can generally be pushed up to its normal situation.

In some cases where the uterus is much elevated, it may be felt through the abdominal wall above the pubes, while the os uteri cannot be reached by the vagina. The urethra may be elongated or drawn to one side, and the bladder may also be displaced. If the abdominal tumour and the pelvic portion of the tumour fluctuate, while the uterus does not much exceed its normal dimensions, it is almost certain that the uterus is adherent to, and is elevated by, an ovarian tumour.

Examination by the rectum may show that the uterus preserves its normal size, shape, and position. Or it may be displaced by some tumour above or in front of it, and one or both ovaries may sometimes be felt. This, however, is not very common if they are not enlarged nor lower in the pelvis than usual. By one finger in the rectum and another in the vagina, the consistence, form, and size of any intervening structure can be ascertained and valuable information so obtained. And if the sound be passed into the uterine cavity, and examination then made by the rectum, it is often easy to ascertain whether any solid or fluid tumour is situated between a normal uterus and the rectum, or whether the uterus is fixed and its posterior part enlarged.

When a tumour can be felt in the pelvis by vagina and rectum, as well as in the abdomen by the abdominal wall, simultaneous examination will be required to ascertain if there is more than one tumour, and if the uterus is independent or not. Pressing one finger firmly on the cervix uteri, and moving the abdominal tumour with the other hand from side to side, then upwards and downwards, the uterus may be felt to remain almost unaffected by the movements of the tumour, or only to receive some transmitted movement as the pelvic portion of the tumour moves. Here the strong probability is that the tumour is ovarian.

On the other hand, every movement of the abdominal tumour may be communicated immediately to the uterus, which is felt to move in all directions with the pelvic portion of the tumour. If this portion is solid, it is almost certain that the tumour is uterine.

Cases are sometimes met with where ovarian tumours and fibroid tumours of the uterus are both present at the same time. Small uterine fibroids are often observed when the only important tumour is ovarian. I have seen a large cyst of one ovary and a large uterine fibroid coexisting. I have twice seen tumours of both ovaries present when the uterus was enlarged by fibroids, and several cases where both uterus and ovaries were simultaneously affected by malignant disease.

If these possible complications be borne in mind, such an examination as I have suggested will in most cases suffice to establish an accurate diagnosis between uterine and ovarian tumours. In some cases doubt may still remain, and exploratory puncture or incision may then be necessary.

If I were to discuss the question whether puncture or incision should be preferred, and what information can be gained by them, I should be compelled to enter into a full account of the physical and chemical characters of the fluids found in ovarian and uterine tumours. I have prepared such an account with much care, and have had many engravings made to assist in the description; but this paper has already extended to such a length that I cannot ask for the further attention of the Society now, but hope I may be permitted to bring this part of the subject before the Fellows at some future meeting.