A SECOND SERIES
OF
FIFTY CASES OF OVARIOTOMY;
WITH
REMARKS ON THE SELECTION OF CASES FOR
THE OPERATION.

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IN the forty-sixth volume of the 'Transactions' of this Society, a paper is published 'On the History and Progress of Ovariectomy in Great Britain,' illustrated by a series of fifty cases in which I had completed this operation, and of six other cases in which I had commenced the operation but had not completed it, or had made an exploratory incision in aid of diagnosis. The same volume of the 'Transactions' contains the report of another case where I performed the operation for the second time upon the same patient.

The only conclusion which I endeavoured to impress upon the Society from these cases was, that ovariectomy is an operation which can no longer be regarded as unjustifiable; but that, on the contrary, it becomes the clear duty of the sur-

geon to perform it in certain cases. I did not attempt to draw any line between cases which are favorable or unfavorable for operation, nor to point out the conditions by which he may approximatively estimate the probability of success or of failure in any given case. I felt that a larger experience was necessary before this could be done. But now that opposition to the principle of the operation has almost ceased, and it is recognised almost universally in this country and in America as a lawful or "legitimate" operation, and the influence of British example is extending to France and Germany, it appears that a second series of fifty cases, forming, with the first series, one hundred cases in which I have completed the operation up to June, 1864, may furnish a sufficient number of facts upon which the inquiry may be begun—although it can be little more than begun—as to the selection of cases for the operation; the rejection of those in which there can be no reasonable hope of recovery; the conditions in which hope and fear are so equally balanced that a patient and her friends may fairly be called into consultation; and those which are so favorable that the operation may properly be recommended to a patient as one of moderate or small risk compared with the nature and progressive danger of the disease.

The following table contains some particulars as to the second series of fifty cases in which ovariectomy was completed; of one case in which it was commenced but not completed, and of two cases in which an exploratory incision was made.

Table of Cases to accompany Mr. Spencer Wells's second series of Fifty Cases of Ovariectomy.

SERIES I.—Cases in which Ovariectomy was completed—50 cases; 33 recoveries; 17 deaths.
 " II. " was commenced, but not completed—1 case. 1 death.
 " III. " an exploratory incision was made—2 cases. Both recovered.

SERIES I.—Cases in which Ovariectomy was completed.

No.	Date.	Age.	Condition.	History, &c.	Result.
51	1862. Dec.	42	Married	Albuminuria; firm adhesions; a pailful of fluid	Recovered.
52	Dec.	53	Single	Non-adherent adenoid tumour, surrounded by ascitic fluid	Recovered.
53	1863. Jan.	34	Married	Large cyst containing 72 pints of fluid.	Recovered. Child born fifteen months after operation.
54	Feb.	25	Single	26 lbs. of fluid; 4 lbs. of adenoma; firm adhesions; short pedicle	Recovered. Died in 44 hours.
55	Feb.	56	Married	Tapped thrice; large cyst, 69 pints of fluid; firm adhesions	Recovered.
56	March	36	Single	Large, adherent, solid mass, and 36 lbs. of fluid	Recovered.
57	March	29	Single	46 lbs. of fluid and 4 lbs. of small cysts, with hair, fat, and teeth; adhesions	Recovered.
58	March	36	Single	13 lbs. of fluid, 2 lbs. of fat; two hair cysts; no adhesions	Recovered.
59	March	26	Single	About 30 lbs.; no adhesions	Died, 27 days after, of pyæmia.
60	March	26	Married	Ascitic fluid surrounding small dendritic growths	Died in 54 hours.
61	April	61	Married	Large cyst; firm adhesions	Recovered. Died 4 months after.
62	April	19	Single	15 lbs. of fluid and 1 lb. of cyst wall; no adhesions	Recovered.
63	April	37	Married	33 lbs. of fluid and 14 lbs. of adenoma; adhesions, parietal, omental, and intestinal	Recovered. Died 3 months after.

No.	Date.	Age.	Condition.	History, &c.	Result.
64	May	33	Married	One sac containing 20 lbs. of fluid, and a mass of small cysts; no adhesions	Recovered.
65	June	50	Married	36 lbs. of fluid; extensive parietal and omental adhesions	Died, 54 hours after, of septicæmia.
66	June	44	Married	34 lbs. of fluid; 3 or 4 lbs. of solid; parietal adhesions	Recovered.
67	June	37	Married	Multilocular cyst; glairy contents; adhesions; rupture of cyst	Died 80 hours after.
68	June	29	Single	Multilocular cyst; no adhesions	Recovered.
69	June	55	Single	Non-adherent simple cyst	Recovered.
70	June	49	Married	Multilocular cyst; adhesions to abdominal walls and intestines	Recovered.
71	July	35	Single	No adhesions; 21 lbs. of fluid	Died in 78 hours; clot in heart.
72	July	35	Single	Multilocular cyst; fibroid outgrowth from uterus also removed	Died in 44 hours.
73	Aug.	55	Single	Simple cyst; no adhesions	Recovered.
74	Aug.	24	Single	Multilocular cyst; no adhesions	Died, in 82 hours, of peritonitis.
75	Sept.	35	Single	Multilocular cyst; no adhesions; 15 lbs. fluid, and 1 lb. adenoid	Died, in 40 hours, of peritonitis.
76	Oct.	35	Married	Six tappings; ascites; rupture of large multilocular cyst	Recovered.
77	Oct.	23	Single	Multilocular; firm adhesions	Recovered.
78	Nov.	33	Single	Multilocular; extensive adhesions	Died, on eighth day, of septicæmia.
79	Nov.	32	Single	Non-adherent; 17 pints; pedicle returned	Recovered.
80	Nov.	19	Single	One cyst, non-adherent, the size of an adult head, a cluster of small cysts as large as an orange	Recovered.
81	Nov.	33	Widow	Ascites and prolapsus uteri; 43 lbs. of fluid; collapsed cyst, size of an adult head	Died, on eighth day, of hamatocæle.

82	Dec.	57	Married	Ascites; multilocular tumour larger than an adult head; adhesions	Died, on third day, of peritonitis.
83	Dec.	36	Married	Both ovaries removed; 4, multilocular, size of melon; B, simple, size of adult head	Died, on third day, of peritonitis.
84	1864.	23	Single	No adhesions; simple cyst; 16 lbs. of fluid	Recovered.
85	Feb.	41	Married	Adherent multilocular tumour, weighing 7 lbs. 3½ oz.; ascites; prolapsus uteri	Recovered.
86	March	57	Married	Adherent multilocular tumour, weighing about 40 lbs.	Recovered.
87	March	23	Single	Multilocular, non-adherent; one third larger than the adult head	Recovered.
88	March	43	Single	Multilocular, 10 to 15 lbs.; extensive adhesions	Recovered.
89	April	23	Single	Non-adherent, simple cyst, twice the size of a fetal head; studded with tubercle	Died 114 hours after.
90	April	32	Married	Non-adherent cyst; 12 pints of fluid and 2 lbs. adenoma	Recovered.
91	April	45	Married	Cysto-sarcomatous tumour, extensively adherent, weighing 59 lbs.	Recovered.
92	April	50	Married	26 pints of fluid; adherent mass, weighing 7½ lbs.	Died in 64 hours.
93	April	21	Single	Non-adherent simple cyst of broad ligament; pedicle returned	Recovered.
94	April	40	Widow	Multilocular adherent cyst, size of adult head; 18 pints of fluid	Recovered.
95	May	47	Married	Multilocular cyst; no adhesions; pedicle returned	Recovered.
96	May	46	Single	Ruptured pseudo-colloid; 17 lbs. of jelly, 6 lbs. of tumour	Died in 44 hours.
97	May	40	Single	Multilocular; parietal and intestinal adhesions; 7 quarts of fluid full of altered blood	Died in 67 hours.
98	May	33	Married	Multilocular; no adhesions	Recovered.
99	May	23	Single	Multilocular, weighing 2 lbs. 6 oz.; 26 pints of fluid; extensive adhesions	Recovered.
100	June	54	Married	Both ovaries removed, each the size of an adult head; no adhesions	Recovered.

SERIES II.—*Case in which Ovariectomy was commenced, but not completed.*

No.	Date.	Age.	Condition.	History, &c.	Result.
1	1864. Jan.	33	Married	Adherent multilocular tumour; not completely removed	Died in 23 hours.

SERIES III.—*Cases in which an Exploratory Incision was made.*

No.	Date.	Age.	Condition.	History, &c.	Result.
1	1862. Dec.	22	Single	Fluid of tubercular peritonitis evacuated by small incision	Recovered. Is now in good health.
2	1864. May	39	Married	Cyst ruptured spontaneously; ovarian fluid removed from peritoneal cavity by small incision	Recovered. Has been tapped several times since.

Of the 100 patients upon whom the operation was completed, 66 recovered and 34 died, and it is curious that in both the first and second series of 50 cases the results are precisely the same, namely, 33 recoveries, and 17 deaths. But instead of six cases of incomplete or exploratory operations which accompanied the first series, only three accompany this second series. It would be unfair to regard these cases as instances of mistaken or even of imperfect diagnosis; because, in nearly all of them the actual result was anticipated before the incision was made, and it was made rather to avoid possible error, or yielding to the urgent solicitation of dying women, than with any confident hope of success. Still, it is satisfactory that increasing experience has lessened the proportion of these incompletes cases, and that while 6—or 12 per cent.—occurred in the first series of fifty, only 3—or 6 per cent.—occurred in this second series of fifty—or 9 per cent. on both series together.

Age.

In order to examine the influence of the *age* of a patient upon the result of ovariectomy, I have prepared the following table, which shows the ages of the first 100 patients upon whom this operation was completed, with the result:

Ages.	Cases.	Recoveries.	Deaths.	Mortality per cent.
15 to 20	4	4	0	0
20 to 25	13	11	2	15·38
25 to 30	14	8	6	42·85
30 to 35	15	7	8	53·33
35 to 40	15	8	7	46·66
40 to 45	13	10	3	23·07
45 to 50	8	5	3	37·50
50 to 55	9	6	3	33·33
55 to 60	8	6	2	25·00
60 to 65	1	1	0	0
	<hr/> 100	<hr/> 66	<hr/> 34	

The small mortality shown in patients below the age of

twenty-five and above the age of forty, and the comparatively high mortality between those ages, is remarkable.

CONJUGAL CONDITION.

Of these 100 patients, there were—

		Recovered.	Died.	Mortality per cent.
Married	. 47	31	16	34·04
Unmarried	. 53	35	18	33·96
	<hr/> 100	<hr/> 66	<hr/> 34	<hr/> 34·00

This shows that the mortality was nearly equal among married and unmarried women *at all ages*. The numbers are far too small to enable us to ascertain the comparative mortality *at any age* between the married and unmarried.

SOCIAL CONDITION.

I need not say that the results of operations in hospital and private practice are affected by many other causes besides the social condition of the patients; but it may be of some value in ascertaining the effect of modes and habits of life of patients upon the mortality of ovariectomy to state that of the 100 cases there were—

		Recovered.	Died.	Mortality per cent.
Hospital cases	54	38	16	29·6
Private cases	46	28	18	39·1
	<hr/> 100	<hr/> 66	<hr/> 34	

INFLUENCE OF SEASON.

On the whole, the mortality was rather lower in the spring and summer than in the autumn and winter months. It was highest in December and January, but it was lowest in November and March. Hence, looking to the small dif-

ference between the mean temperatures of November and December—the months of lowest and highest mortality, or between January and March—the months of the next highest and lowest mortality, it seems probable that the result of ovariectomy is not much influenced by the season when it is performed.

SIZE AND CONNECTIONS OF THE TUMOURS.

Adhesions.—In 41 cases there were no adhesions, or they were so slight as to be almost unnoticed; of these patients 27 recovered and 14 died, the mortality being $34\frac{1}{2}$ per cent. In 59 cases, adhesions were very extensive; of these patients 39 recovered and 20 died—a mortality of 34 per cent. So that, as regards adhesions to the abdominal wall, omentum, or intestines, it would appear that they have little, if any, influence upon the mortality, and that the importance which has been attached to the diagnosis of adhesions before operation has been very greatly and unnecessarily exaggerated. But the diagnosis of adhesions within the pelvis is of very great importance, as the attachments to the bladder or rectum may be almost inseparable without great and immediate danger to life. The same may be said of attachments around the brim of the pelvis, the separation of which would endanger the iliac vessels or the ureters. And the closeness of the connection between the uterus and the ovarian tumour—in other words, the length of the pedicle—becomes of great importance, as upon the length depends the possibility of keeping the end of the secured pedicle outside the peritoneal cavity or the necessity for leaving it within this cavity. I do not propose, in the present paper, to enter upon the question of diagnosis; but as it is seldom difficult to ascertain, before operation, the probable extent of pelvic adhesions, and the probability of being able to carry out the extra-peritoneal treatment of the pedicle, the following facts appear to be important.

1. Of the 100 cases, the pedicle was secured and kept outside the peritoneal cavity by a clamp in 66 patients. The

result was 48 recoveries and 18 deaths, or a mortality of 27·3 per cent.

2. In 16 cases the pedicle was secured by a ligature, but was also kept outside. The result was 10 recoveries and 6 deaths—a mortality of 37·5 per cent.

Taking these two series of cases together, we have 82 cases in which the end of the pedicle was kept outside the abdominal cavity, the result being 58 recoveries to 24 deaths—or a mortality of 29·3 per cent.

3. In 5 cases the pedicle was tied and allowed to sink into the abdomen, one or both ends of the ligature being brought out between the edges of the wound. Of these patients, 4 died and 1 recovered—a mortality of 80 per cent.

4. In 3 cases the clamp was used at the operation, but was taken away after a ligature had been applied behind it, and the pedicle was allowed to sink into the abdomen, the ends of the ligature being kept between the edges of the wound. 1 of these patients recovered and 2 died—a mortality of 66 per cent.

Taking these two series of cases together, we have 8 cases in which the end of the pedicle was left within the abdomen, the ends of the ligature being kept between the lips of the wound; the result being 6 deaths and 2 recoveries—a mortality of 75 per cent.

5. In 9 cases the pedicle was tied, the ends of the ligature were cut off short, and were allowed to sink into the abdomen with the end of the pedicle, the wound being closed. The result was 5 recoveries and 4 deaths—a mortality of 44 per cent.

6. In one successful case the *écraseur* was used.

The practical inference from these facts, so far as regards the selection of cases for ovariectomy, is that the probability of success is nearly doubled where the attachments of an ovarian tumour permit the end of the secured pedicle to be kept outside the cavity of the abdomen until it has separated.

The *size* of an ovarian tumour has not, by itself, appeared to affect the result; but size and solidity together, by affect-

ing the length of the incision necessary for the removal, appear to be of some importance. If there be but little solid or semi-solid substance present—which is generally easily discovered before operation—large adherent cysts holding fifty, sixty, or seventy pounds of fluid may be removed after the contents of the cyst have been evacuated through an opening only just large enough to admit one of the operator's hands. The result of such cases has been very satisfactory ; but the mortality has been greater when longer incisions have been necessary. The number of inches is a very imperfect mode of judging of the length of incision in these cases ; for in a small woman with a tumour of moderate size, an incision of eight or ten inches would extend almost from sternum to pubes ; while in a large woman, whose abdomen is greatly distended by a large cyst, an incision of this length may be made below the umbilicus, and after the contraction of the abdominal wall, the cicatrix may not be more than three or four inches long, so that, in selecting a case for operation, it becomes important to judge whether a cyst or tumour can probably be removed by an incision which does not extend above the umbilicus. My impression is, that when this can be done, the probability of success is much greater than when it becomes necessary to extend the incision much above the umbilicus. Of the 100 cases, it was necessary to carry the incision above the umbilicus in twenty patients. Of these nine died—a mortality of 45 per cent. In 80 cases the incision did not extend above the umbilicus. Of these patients 25 died—a mortality of 31 per cent., or 14 per cent. in favour of the shorter incisions.

It was my intention to have prepared some tables showing how far the age and condition of the patient, the size of the tumour, the existence of adhesions, the length of the pedicle, and any other particulars which can be ascertained or made out with tolerable accuracy when the question of operation is discussed, have affected the result in the 100 cases upon which this paper is founded. But the numbers are too small to give any value to such calculations where the conditions are so complex. I think, however, that the experience has

been sufficient to warrant the acceptance of some such rule as the following :

“ The probable result of ovariectomy can be estimated with far greater accuracy by a knowledge of the general condition of the patient, than by the size and condition of the tumour.”

In other words a large tumour, extensively adherent, in a patient whose heart and lungs, and digestive and eliminative organs are healthy, and whose mind is well regulated, may be removed with a far greater probability of success, than a small unattached cyst from a patient who is anæmic or leukhæmic, whose heart is feeble, whose assimilation and elimination are imperfect, or whose mind is too readily acted upon by either exciting or depressing causes. I believe this to be the explanation of the facts which have led some superficial observers to assert that the more advanced the disease the greater, and the earlier the stage of the disease the less, is the probability of recovery. I am convinced that this reasoning is based on the observation of a few exceptional cases where small unattached tumours have been removed with a fatal result from unhealthy persons; or where large attached tumours have been successfully removed from persons who have otherwise been constitutionally sound. In this question, as in every other where we have to decide upon matters of life and death, medicine and surgery in their widest sense must cordially co-operate in the service of humanity.