SECOND SERIES OF FIFTY CASES OF
OVARIOTOMY;
WITH AN ACCOUNT OF THOSE CASES IN WHICH NO
OPERATION WAS PERFORMED.
BY THOMAS KEITH, F.R.C.S. EDIN.

The accompanying table exhibits a second series of fifty cases of ovariotomy. The first series was published in THE

LANCET for Sept. 7th, 1867. Of those in that series who recovered, three have since died: one, after six years, of typhus; another, suddenly, of heart disease, three years after; and a third upwards of two years after operation. In the first fifty the mortality was 22 per cent.; in the present fifty, 16 per cent. In three other cases no attempt was made to complete the operation after it was commenced, and no harm was done. No mistake of diagnosis has happened. Five cases since operated on have recovered.

No.	DATE.	AGE.	CONNEXIONS; WEIGHT OF TUMOUR; ETC.	RESULT.
51	Jan. 1867.	40	Parietal adhesions. 35 lb. Both ovaries removed.	Recovered.
52	Jan.	42	Dermoid cyst. 42 lb. Very extensive parietal and pelvic adhesions.	Died (6th day).
53	Feb.	42	No adhesions. 27 lb. Both ovaries removed.	Recovered.
54	Feb.	42	Dermoid cyst. 10 lb. Pelvic adhesions.	"
55	March	35	Extensive parietal adhesions. 34 lb.	"
56	April	60	No adhesions. 31 lb.	"
57	June	27	Very firm parietal and omental adhesions. 51 lb.	"
58	July	43	Adhesions to wall and in pelvis. 48 lb.	"
59	August	34	Parietal and pelvic adhesions. 11 lb. Ascites and chronic pleurisy.	Died (5th day).
60	Sept.	23	Extensive pelvic adhesions. 31 lb.	Recovered.
61	Nov.	43	{ Parietal, intestinal, omental, and pelvic adhesions. 8 lb. Ascites. Malignant } tumour.	"
62	Nov.	32	Extensive parietal adhesions. 31 lb.	"
63	Nov.	55	Parietal and pelvic adhesions. 23 lb.	"
64	Dec.	32	Parietal and omental adhesions. 16 lb.	"
65	Dec.	40	Very firm parietal and omental adhesions. 19 lb.	"
66	Jan. 1868.	38	Adhesions to omentum, intestine, liver, and spleen. 16 lb. Ascites.	"
67	Feb.	60	No adhesions. 11 lb.	"
68	March	51	No adhesions. Cyst walls 21 lb. Tapped ten days before operation.	"
69	April	27	No adhesions. 22 lb.	"
70	May	63	No adhesions. 18 lb.	"
71	June	21	Omental adhesions. 16 lb.	"
72	June	55	Parietal adhesions. 30 lb.	"
73	June	27	No adhesions. 27 lb.	"
74	June	33	No adhesions. 29 lb.	"
75	August	47	Omental and intestinal adhesions. 9 lb. Ascites.	"
76	Sept.	27	Very extensive parietal adhesion. 41 lb. Both ovaries removed.	Died (6th day).
77	Sept.	40	No adhesions. 8 lb. Ascites.	Recovered.
78	Oct.	59	Parietal adhesions. 26 lb.	"
79	Nov.	41	Adhesion to colon. 61 lb.	"
80	Dec.	47	Extensive parietal adhesion, and to diaphragm. 40 lb.	"
81	Dec.	25	Omental adhesions. 13 lb.	"
82	Dec.	55	No adhesions. 21 lb.	"
83	Jan. 1869.	53	Extensive parietal adhesions. 40 lb.	"
84	Jan.	42	Very firm parietal, omental, and intestinal adhesions, and to liver. 41 lb.	"
85	May	21	No adhesions. 31 lb.	"
86	May	63	Adhesions in pelvis to uterus and rectum. 13 lb. Malignant tumour.	Died (6th day).
87	June	46	Omental adhesions. 14 lb.	Recovered.
88	June	33	No adhesions. 27 lb.	"
89	June	40	Very extensive parietal and omental adhesions. 25 lb. Malignant tumour.	Died (23rd day).
90	July	40	{ Adhesions to uterus and in pelvis to sacrum. 15 lb. Ascites. Part of } tumour left.	Died (7th day).
91	August	25	Dermoid cyst. 17 lb. Parietal and omental adhesions.	Recovered.
92	Sept.	67	No adhesions. 40 lb.	"
93	Oct.	63	No adhesions.	Died (15th day).
94	Nov.	29	Extensive parietal and pelvic adhesions. 22 lb.	Recovered.
95	Dec.	30	Parietal and omental adhesions. 40 lb.	"
96	Jan. 1870.	46	No adhesions. 13 lb.	"
97	Feb.	37	No adhesions. 38 lb.	"
98	March	36	Adhesions to rectum, intestine, and omentum. Ascites. Malignant tumour.	Died (7th day).
99	March	55	Adhesions to intestine. 30 lb.	Recovered.
100	March	35	No adhesions. 21 lb.	"

Of these 100 operations there have thus been 81 recoveries. There has been a gain of 6 per cent. in the last fifty, while those who died survived the operation longer. In the first series death took place, on the average, in the course of the third day; in the latter, during the tenth day. The mortality towards the end would probably have been less had it not been for the accidental circumstance that several of the tumours were cancerous. No malignant tumour was met with till the 61st case. This patient recovered after a very severe operation, remained perfectly well for eight months, and died within a year from cancer of the peritoneum. Taking the cases altogether, the operations were

quite as severe as the first fifty. Many of them were badly constitutioned women, and not a few had sought relief elsewhere in vain. Patients have certainly not been sent earlier for operation. Thus, in one week last year, I saw, within a few minutes' walk of my own house, three cases for the first time, whose measurements at the umbilicus were respectively 57, 59, and 62 inches. The 65th case died on the thirty-third day after operation. She had recovered perfectly, and was about to leave, when, after a day of much excitement, and having eaten very freely of hard grapes, symptoms of intestinal obstruction suddenly set in, the bowels having acted freely without medicine a few hours

before. After waiting some days, the abdomen was a second time exposed by an incision an inch to the right of the old cicatrix; the obstruction was easily reached, and was found to be caused by a very old-standing stricture of the lower end of the ileum, which had probably existed from her earliest days. For half an inch of the bowel there was not a trace of muscular fibre, but only peritoneum. The contraction admitted a No. 10 catheter.

Of the three unfinished operations, in the first, on drawing out the cyst, the posterior adhesions were everywhere so old and intimate that nothing more was attempted. A free opening was left in the cyst; the patient got into very good health, married, and remained well for two years, when the fluid rapidly collected. Tapping was required three months ago. In the second a very firmly adherent thin cyst was simply emptied. The patient recovered perfectly, and was afterwards treated by drainage. In the third the uterus was drawn up to within an inch of the umbilicus. The tumour was so fused together with the uterus and bladder, that nothing was done except emptying two large cysts. The patient recovered as after an ordinary tapping, and as yet continues well.

In the following cases no operation was performed. To the best of my belief the list includes every case of ovarian disease which I have seen during this period, and forms a sort of balance-sheet by which the value of the operative results may be judged. I except, of course, several cases of small tumours which as yet have given no trouble, as well as several cases of slow-growing single cyst (a form of the disease which gives rise very often to little trouble) which have been tapped once or oftener, and in which operation may some day be necessary. The first on the list was omitted from the series of cases given in 1867 in which no operation was performed.

1. Case seen with Dr. Mackay, of Elgin. Both local and general conditions were so bad that operation was not advised. Her health, however, improved, and she came to town for ovariectomy. The journey completely prostrated her, and she died three weeks after, one of the cysts discharging putrid fluid.

2. A simple case of non-adherent cyst, seen with Dr. Duncan. Through some misunderstanding, she went home on the second day after being tapped. It was in winter, and she returned with red serum escaping at the puncture. This continued till she died, some weeks afterwards.

3. A Glasgow midwife, seen in the infirmary with Dr. Duncan. She had a large multilocular cyst, and a tumour in the pelvis closely connected with the uterus. I have sometimes thought that ovariectomy might have been successful in this case. She never came to me sober, and was always accompanied by a son and daughter less sober than herself.

4. A young lady with chronic pleurisy, seen with Dr. Christison. She was tapped in the country, and came to town for operation. By this time the effusion had increased, and the heart was beating to the right of the sternum. Thoracentesis was performed, and was repeated nine times, the amount of fluid varying from five to seven pints. The intervals diminished from ten days to three months, and the ovarian tumour continued small, though some ascitic fluid was several times removed. The general health improved so much that there was every prospect of ovariectomy being yet done, when she died suddenly, after some slight exertion.

5. Two cases, seen at different times with Dr. Burns. Both were very unhealthy women suffering from tubercular disease, and in neither was operation entertained.

6. Case of enormous semi-solid tumour, in the last stage of the disease, seen at Morningside, and proving fatal very soon after.

7. A case seen with Dr. Menzies two days after her confinement. Eight gallons of fluid, with much blood, were removed, and ovariectomy was agreed on as soon as the cyst refilled. In two months she had signs of pyæmic fever. Sixty pounds of horribly putrid pus, with masses of fibrin, were removed by an incision into the cyst. After some months a perfect cure resulted from suppuration, and she has had a child since.

8. A case from Yorkshire, in which a large jelly cyst had burst into the peritoneum. The patient had been two months in town before I saw her, and was then far too feeble for any operation.

9. A large tumour, with much ascites, and very enlarged liver, seen with Dr. Williamson, of Leith.

10. Sent by Mr. Page, of Carlisle. The patient had long suffered from asthma, and neither heart nor lungs were sound. The uterus was drawn into the abdomen, and the tumour was firmly adherent in the pelvis. I doubt if ovariectomy was practicable, even had she been a strong woman; and she acted wisely in being satisfied with what relief tapping from time to time gave.

11. A healthy woman from Dumfries, with a large unattached cyst. Ovariectomy was pressed upon this patient, but, by the advice of her medical attendant, she temporised, and returned after a year with her health quite broken down. She had been tapped once, and cyst-inflammation followed. Operation was again urged upon her, but she could not make up her mind, went home, and died soon afterwards.

12. A very favourable case, sent from the infirmary by Dr. Duncan. Two days before operation was fixed on some friends carried her off to the country. She died within a month, of rupture of the cyst.

13. A case of very large, nearly semi-solid tumour, sent a few weeks ago by Dr. McLagan, of Berwick. No operation was recommended, on account of her feeble condition. Two years ago operation had been advised, when she was comparatively a strong woman, and there can be but little doubt that it would then have been successful.

14. The wife of a medical friend, with a semi-solid tumour extending to the umbilicus. She died from rupture of one of the cysts. I had previously given an opinion that the case would never come to be one for ovariectomy on account of the close connexion between the uterus and tumour. Post-mortem examination proved that the tumour could not have been separated from its attachments in the pelvis.

15. A case from Dundee, which I believed to be one of very adherent fibro-cystic tumour of the uterus. I was very much pressed by the friend who sent her to me to give this poor woman a chance by operation, but declined, after having kept her beside me for some weeks, and after having removed a thin bloody serous fluid from several moderate-sized cysts. She died soon after in Dundee Hospital. The tumour was fibro-cystic, and could never have been removed during life.

16. Seen at St. Andrews with Professor Bell. The patient was very feeble, and had been often tapped. The tumour was large, everywhere adherent, and fluid was discharging from one of the old punctures. Her feeble condition and the local difficulties made the prognosis so unfavourable that operation was not entertained.

Of the fatal cases—in one, operation was looked upon as simple and safe; in two, the risk did not seem greater than the average risk; in two, the chances were put as being against the patient; while in three the risk was set down as an almost unknown risk, and on this understanding only was operation gone on with.

Death was caused in the simple case from pulmonary embolism, fifteen days after operation. Two died from pyæmia: in one of these part of a very adherent tumour was left attached to the sacrum; in the other, the tumour was cancerous and adherent to the rectum. One fair average case, in which both ovaries were removed, died from large fibrinous clot in the right auricle, without any morbid appearance being found in the abdomen. One case of malignant tumour seemed doing fairly well, when rapid pulmonary congestion carried her off on the sixth day. Another of the malignant cases got over the immediate effect of the operation, and lingered on for twenty-three days, worn out apparently by the general cancerous disease. In one suffering from double chronic pleurisy and ascites, so much relief had followed thoracentesis that ovariectomy seemed justifiable. On the fifth day after, the pleura again rapidly filled. Thoracentesis was again had recourse to, but it did not save her, while the very small amount of healthy lung afterwards found showed that there had been an error in judgment in doing ovariectomy at all.

In Case 52 the excessive chloroform vomiting during the operation, and for some time after it, so prostrated the patient that her chance of recovery was lost. In the early cases I have frequently had to deplore the injurious effects of chloroform vomiting in ovariectomy, and so evident was the mischief occasioned by it in this unfortunate case that I have since then entirely abandoned the use of this agent

in ovariectomy and other severe and tedious operations, and now use instead anhydrous sulphuric ether, made from methylated alcohol, administered through Dr. Richardson's apparatus. The oftener it has been given the more I like it. How chloroform so quickly superseded it is a marvel. The anæsthesia of ether, though at first slower, is extremely steady and quiet. There is infinitely less vomiting than with chloroform, and instead of the pallid face and feeble pulse of chloroform, the patient, after a long operation, is put to bed with a flushed face and a great surface-circulation. In cases of non-adherent tumour vomiting is, I fancy, of little consequence; but when there has been extensive adhesion, and when oozing may be set up by it after the wound is closed, vomiting can be no trifle, and will turn the scale. Sulphuric ether has now been used—at first with a small proportion of chloroform—in 53 cases of ovariectomy (of which 46 recovered), and I think that something has been gained from the use of it. I would put in a word for the old anæsthetic. Chloroform certainly saves the surgeon five or ten minutes of time, and a little trouble. Had it never been heard of, I doubt if humanity would have suffered from the want of it.

When practicable, the extra-peritoneal method of treating the pedicle has been adhered to. On the whole, greater success will probably follow this than any other single method, especially when we have to do with a bad general condition. Thus in 40 clamp cases (from the 45th to the 85th) there were 3 deaths; and in neither of them had this way of treating the pedicle anything to do with the result. Ligatures on the pedicle have also once or twice been cut short, and returned; sometimes they have been left hanging out at the wound; and of late the cautery has been several times used with excellent results. Each method has advantages in certain cases.

Of the whole number of operations, 70 were treated in the same room. Of these, 60 recovered. Nearly all the worst operations were performed there. The greater number of those who died were poor, worn-out women, who came late in the disease. The mortality would probably have been much lower if there had been earlier operation in many of them; not that small tumours giving little trouble should be removed, for, on the whole, cases do best where the tumours are large and the general health somewhat impaired. There is, however, a stage in the progress of almost every case of ovarian disease in which operation is safe; and if this favourable time be allowed to pass, no care or skill can make up for it.

No case was operated on in hospital, for I hold no hospital appointment; yet, with the exceptions already given, I have not in any case declined my assistance. The results are, therefore, fair results.

Edinburgh, July, 1870.

PERFORATIONS OF THE MEMBRANA TYMPANI.

By W. B. DALBY, M.B. CANTAB.

(Continued from p. 581, vol. i. 1870.)

STILL continuing the subject of one result in perforations of the membrane arising from tympanic disease—namely, the impairment of hearing,—I find, from my notes of 29 cases of this kind, taken without reference to any particular points of interest, but in the order as they came under my notice, that of 17 in which the perforation was small or of moderate size, in 12 the hearing was improved, with or without the artificial membrane, as the tympana became in a more healthy condition, and in 5 there was no improvement; of 12 in which the membrane was nearly gone, in 10 the hearing was improved under similar circumstances, in 2 not at all.

The size of a perforation is of itself no guide to a prognosis, increase in hearing power depending on entirely different causes. One of large or moderate size is more amenable to treatment than a very small one; and this is what might be expected when it is considered how much more easy in the former cases it is to clear out the tympana and Eustachian tubes, thus allowing the solutions to be in

free contact with the whole extent of lining membrane. Just as the symptom of deafness was shown to be due not so much to the perforation as to the disease of which it was an effect, so the degree of hearing bears no relation to the amount of tissue lost. Drs. von Tröltzsch and Politzer agree in this point; but the latter is also of opinion that "the patients hear better as a rule when the perforations are of medium size than when they are very small, because in the former case the sonorous waves, avoiding the membrana tympani, malleus, and incus, pass through the perforation directly upon the base of the stapes, and may thus reach the labyrinth to quite an extent."

A girl, seventeen years of age, whom I am now treating for catarrh of the left tympanum, has a very large perforation of the right membrane, through which she can blow freely. From her history, this must have existed for three or four years. There is no account of a discharge, which, however, no doubt, existed at some time, and was overlooked. The tympanic disease which caused the perforation must have been extremely slight; for the hearing on this side, although impaired, is so good that she considers it to be perfect with that ear.

When the artificial membrane fails or cannot be worn without producing irritation, which sometimes happens, the plug of cotton-wool, as commonly used in place of it, gives excellent results. The principle of its action is, of course, the same; still, notwithstanding this, it by no means follows in practice that, when one succeeds, the other will be equally successful, and for this reason both should always be tried.

A young lady had become a little deaf at five years of age. She recovered for a time under Mr. Toynbee's care; but was deaf at intervals up to five years ago, when discharge from the right ear began. When I saw her last year, the membrane was nearly all destroyed on that side, and she could blow freely through that ear. A watch was heard at two feet from that ear, but conversation very imperfectly. A weak solution of alum and sulphate of zinc was syringed from the meatus through the Eustachian tube twice a week for three weeks. At the end of that time the discharge had ceased, and the hearing had considerably improved. Still she was very deaf. The artificial membrane had no effect; but with the cotton-wool, which she easily adjusts, she can hear very well indeed with that ear. The ulceration of the membrane took place without doubt during catarrh of the tympanum, of which there was all the appearance on the left side. This membrane had not given way, and she was more deaf on that side than the right. In this respect the following is a very similar case, inasmuch as the origin appears to have been the same. Here the left membrane was entire, and the worst ear. It also illustrates the fact that a perforation is not necessarily an unfavourable termination to unchecked catarrh of the tympanum.

Miss L. C.—, aged twelve. Deaf with both ears, and discharge from right since three years of age. Not coming on during or after illness. A large circular perforation, with red clean edge, about the centre of the right membrane. Watch heard at four inches from ear; conversation very badly. Long-standing tympanic disease of left side, but no perforation. Both Eustachian tubes, as in former case, pervious. Air entered the left tympanum quite freely, but gave no improvement. After three weeks' treatment, the discharge from the right ear had ceased, and the watch was heard at eighteen inches, but the voice not perceptibly better. Although the condition of the tympanum was more healthy, the hearing was no better, either with the cotton-wool or the artificial membrane of the ordinary kind; yet, to all appearance, it was just a case to be benefited by one or the other. There was an entire absence of any nervous affection. The tuning-fork could be heard perfectly on the head, the sound being intensified when the meatus of both sides were closed. Fatigue or excitement did not affect the hearing. I finally tried an artificial membrane, consisting of a small bulb of india-rubber, which not only closed the opening in the membrane, but projected into the tympanum; and by wearing this she could hear a conversation very well.

This is interesting so far as it tends to favour the explanations which have been given of the mode of action of the artificial membrane and the cotton wool—namely, that the effect is produced by approximating the articulations of the ossicles, or supplying their place when these bones are