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PART I.
ORIGINAL COMMUNICATIONS.

ART. XIII.—*Notes on Ovariotomy.* By FLEETWOOD CHURCHILL, M.D. M.R.I.A.; Hon. Fellow of the Philadelphia Medical Society; Physician to the Western Lying-in Hospital and Dispensary; and Lecturer on Midwifery, &c. at the Richmond School of Medicine.

[Read before the Dublin Obstetrical Society.]

THERE are some diseases so generally fatal in their results, and so little under the control of ordinary treatment, that a practitioner may be fully justified in having recourse to extraordinary expedients, even though attended with serious risk, provided only that the risk from the operation be considerably less than the mortality from the disease under ordinary remedies.

This remark I would apply to the operation for the extirpation of diseased ovary, which has recently attracted so much attention in England; and as the subject is one of so much importance, I make no apology for laying the matter somewhat at length before this Society: for, on the one hand, we find the

disease almost unmanageable by the methods hitherto adopted, and ending fatally sooner or later; and on the other, an operation of the severest kind, and averaging a high rate of mortality, is proposed as a remedy. If experience shall exhibit a fair and reasonable proportion of successful cases, then, although severe, the operation will be justifiable; but if its fatality at all equal that of the disease, it will clearly be altogether objectionable.

But before we enter into the merits of the operation itself, it may not be amiss to notice one or two points in the pathology and history of the disease for which ovariectomy is proposed as a remedy.

Dropsy of the ovary, though sufficiently distinctive as a name, yet comprehends considerable differences of morbid structure; for instance:

1. The enlarged ovary may consist of a single cyst, with thin membranous parietes containing a serous fluid.

2. Instead of a single cyst there may be many, each separate from the other, or two or more communicating together. The fluid may vary in quantity, quality, and consistence in each, being in some limpid serum, in others green, yellow, or brown glutinous matter; in others, of the appearance and consistence of honey; and in others, hydatids.

3. In cases of multilocular dropsy of the ovary, we find more or less of solid matter, sometimes chiefly at the root of the tumour, in others forming a large portion of it.

4. Again, we find the ovaries enlarged considerably from fibrous tumours. Dr. Baillie remarks, that "the ovarium is much enlarged in size, and consists of a very solid substance intersected by membranes, which run in various directions. It resembles in its texture the tumours which grow from the outside of the uterus, &c."

5. Lastly, the ovaries may be the seat of malignant depositions, and though, as in the case of fibrous tumours, the enlargement is not so great as in dropsy, yet it sometimes attains a considerable size.

Although we find these diseases attain to a great development without much complaint on the part of the patient, we cannot therefore conclude that they cause no irritation in the neighbouring tissues, for we very commonly find adhesions more or less extensive between the tumour and abdominal peritoneum, or effusion into the serous cavity.

The symptoms to which these enlargements of the ovaries give rise are partly mechanical, partly sympathetic, and partly constitutional. Pressure on the neighbouring organs will be in proportion to the amount of the disease and its situation. Thus the patient may suffer from dysuria, or even retention of urine, from difficulty in evacuating the bowels, and from pain along the sciatic nerves, whilst the tumour is in the pelvis. After it rises above the brim, these symptoms are generally less marked, but certain unpleasant consequences result from pressure upon the intestines and stomach, and, when the enlargement is excessive, from the pushing upward of the diaphragm.

It is not very uncommon for some of the signs of pregnancy to be present, owing to the intimate sympathy of distant organs with the ovaries.

For a considerable time—varying in different patients—there are few constitutional symptoms, the suffering being chiefly local; but after some time, as the disease advances, a great change takes place, in consequence of diseased action going on in the ovary. Dr. Burns observes: “In the course of the disease the patient may have attacks of pain in the belly, with fever, indicating inflammation of part of the tumour, which may terminate in suppuration, and produce hectic fever: or the attack may be more acute, causing vomiting, tenderness of the belly, and high fever, proving fatal in a short time: or there may be severe pain, lasting for a shorter period, with or without temporary exhaustion, and these paroxysms may be frequently repeated. But in many cases these acute symptoms are absent, and little distress is felt until the tumour acquires a size so great as to obstruct respiration, and cause a painful sense of distention. By this time

the constitution becomes broken, and dropsical effusions are produced. Then the abdominal coverings are sometimes so tender that they cannot bear pressure; and the emaciated patient, worn out with restless nights, feverishness, and want of appetite, pain, and dyspnoea, expires.*

This disease may terminate in various ways. 1. In some cases by resolution and absorption of the fluid; this, however, is extremely rare, even in early dropsy, and, of course, infinitely more so when the disease has made much progress. 2. Inflammation may attack the covering of the sac, giving rise to adhesions; and in some of these cases the contents of the sac may be evacuated into the intestines or vagina with temporary relief, and in a few cases ending in a perfect cure. 3. The tumour may be attacked by inflammation, ending fatally; this is not uncommon after tapping. 4. The parietes of the ovary may give way, evacuating its contents into the cavity of the peritoneum: or more frequently the walls of some one of the cysts in a multilocular dropsy give way under the general pressure, and open into the abdomen. Peritonitis generally follows, often ending fatally.

Thus in very few cases, indeed, is there hope of cure by absorption; in others there may be spontaneous, though temporary, relief afforded by the evacuation of the fluid through artificial openings; but upon the whole there is little prospect before a patient afflicted with this disease but long continued annoyance, more or less suffering, and sooner or later broken health, a shattered constitution, and death.

In an estimate of unusual modes of relief like the present, it would be very desirable to ascertain not *merely the ordinary results of the disease*, but the *period of time occupied in arriving at them*. But in the present instance this is impossible, as the course of the disease is irregular: in some cases the termination is comparatively early, in others the disease lasts many years.

* Midwifery, p. 139.

We therefore lack one element for a complete calculation. The general opinion is uniform as to the results, and the little benefit to be obtained from medicine, except in early cases; so much so, that when the tumour has attained a certain size, the only relief anticipated is from surgical treatment.

So far then our object is clear, having ascertained, as nearly as we can, the consequences of the disease when left to itself, or under medical treatment alone; we shall next review shortly, the different surgical methods which have been proposed, and then, by a fair comparison, estimate the value of each.

It will have been noticed that in the preceding observations I have said nothing upon fibrous growths, or malignant disease of the ovaries, and for the obvious reason, that although such have been extirpated, it is not for them that ovariectomy is proposed, but for ovarian dropsy.

1. The ordinary surgical operation for the relief of ovarian dropsy is abdominal paracentesis, puncturing the tumour by a trocar, and evacuating its contents. No doubt that by this operation the life of the patient is frequently prolonged, and present relief from the over-distention is afforded, but by degrees the sac refills, and all the former inconveniences recur, with no hope of relief, except by a repetition of the operation. Thus, for instance, Portal tapped one patient twenty-eight times; Ford, another forty-nine times, drawing off altogether 2649 pints. Morand evacuated 427 pints in ten months; and Martineau drew off 495 pints within a year; and from the same patient 6631 pints, by eighty operations, in twenty-five years.

But the necessity for a repetition of the operation is neither the only nor the worst inconvenience attendant upon abdominal paracentesis. The sudden evacuation of so large a quantity of fluid may cause alarming or even fatal exhaustion; or if she recover from this, the tumour itself, or the peritoneum, may be attacked by inflammation, with its consequences.

Moreover, if the tumour be multilocular, and the cells do not communicate, or if their contents be not fluid, the operation

will fail altogether. The same result will obtain if the tumour be fibrous or scirrhus: in the latter case, indeed, the fatal result will rather be accelerated.

Mr. Southam has furnished us, in his Essay, with a table, which, so far as it goes, may enable us to form an estimate as to this operation. He has taken ten cases from Dr. Bright, five from Dr. Barlow, and added five of his own.

Patient	Age.	Married.	Single.	Duration of Life after first Operation of Paracentesis.	No. of Times tapped.	Cause of Death.
A. B.	44	1	..	24 hours.	1	Inflammation.
— H.	..	..	..	48 do.	1	Do.
E. S.	36	1	..	Several days—10?	1	Do.
M. H.	40	..	..	Few days—7?	1	Do.
				1 month.	1	Ulceration of sac, and escape of contents into abdomen.
	45?	..	..	1 do.	1	Exhaustion from extensive scirrhus disease.
— B.	..	..	..	1 do.	1	Exhaustion.
	..	1	..	2 months.	2	
E. W.	26	1	..	4 do.	3	Exhaustion.
S. P.	35	1	..	7 do.	1	
M. M.	53	1	..	7 do.	5	Inflammation.
C. E.	40	..	..	8 do.	6	Exhaustion.
— O.	54	1	..	8 do.	1	Do.
S. B.	20	..	1	9 do.	4	Inflammation.
E. S.	22	..	1	15 do.	6	
A. M.	34	1	..	18 do.	2	Inflammation.
— T.	33	1	..	4 years.	7	Exhaustion from pressure of tumour.
E. W.	27	..	..	4 years 9 months.	14	Inflammation after tapping.
E. B.	32	..	1	7 years.	4	Do.
M. N.	35	1	..	8½ do.	11	Do.

“Thus, fourteen died within nine months after the first operation, four of whom survived it only a few days. Of the remaining six, two died in eighteen months, and four lived for periods varying from four to nearly nine years. It further appears that paracentesis does not prolong life, on an average, for more than eighteen months and nineteen days, and that one in five dies from the effects of the first operation.”*

* Mr. Southam's Remarks, &c., Med. Gaz.

Of eleven cases of dropsy of the ovary admitted into Guy's Hospital, seven were tapped, three of which were unsuccessful.*

2. From the unsatisfactory results of paracentesis, certain modifications have been proposed; thus it has been suggested, that, after emptying the sac, some stimulating fluid might be injected, as in hydrocele, for the purpose of exciting inflammation which may end in obliteration of the sac. However, after pointing out inflammation of the sac as one cause of a fatal termination, it will scarcely be necessary to do more than refer to it as increasing the risks of tapping.

3. Dr. Blundell has proposed *early* tapping as a practice "which may be thought of" in these cases, on the principle that as in the smaller cysts, the accumulation is less rapid, the patient would be spared suffering. He thinks that a puncture might be made into the tumour whilst in the pelvis, or that an incision being made through the abdominal parietes, the finger might guide the trocar down to the tumour.

We are not aware of any cases thus treated, nor do we anticipate that the results would be more favourable than from tapping in the usual way.

4. An attempt at cure has been made by Ledran, Houston, Voisin, and others, by making a free incision into the ovary, evacuating its contents, and converting the opening into a fistulous sore. Capuron states, that "this method is generally abandoned, because it was remarked that it accelerated the death of the patient;"† and Dr. Burns remarks that in no case has he seen benefit from it.‡

Dr. Blundell proposed a plan something like this, but instead of an incision he suggests the removal of a part of the cyst, "so as to enable it to evacuate its contents into the peritoneal sac."§

* Guy's Hosp. Rep. 1837-8.

† Midwifery, p. 142.

‡ Mal. des Femmes, p. 187.

§ Diseases of Women, p. 118.

5. Lastly, the extirpation of the diseased ovary has not only been proposed but practised to a considerable extent. As a considerable number of cases are before us, it is not necessary to occupy time in adducing at length the opinions of different writers, further than to observe, that it is said to have been first recommended by Vanderhaar, and afterwards by Delaporte, Morand, and Logger. In more recent times it is advocated by Blundell.

It is opposed by De Haen, Morgagni, Murat, Capuron, Hamilton, &c.

I may add Dr. Hamilton's objections, that they may be tested by the cases adduced; he says: "1. It is extremely difficult to distinguish enlargement of the ovary in its early stages; and it is still more difficult to foretell the progress of such enlargements; any operation might, therefore, be useless or unnecessary, unless if there be no disease, and unnecessary if the disease be in a stationary condition. 2. There is always a risk, in cases of enlarged ovary, that there may be a complication of organic disease or that morbid adhesions may have formed, connecting the disease with other parts. 3. As no prudent practitioner would think of operating unless the patient's health suffered or seemed to suffer from the disease, there must, in every such case, be the hazard of some malignant affection existing, which no operation could remedy."*

After these preliminary remarks I shall very slightly enumerate the cases in which the operation has been performed, including those where the ovary was removed, those in which, the disease being ovarian, obstacles prevented the completion of the operation, and those in which the operation was needlessly performed, owing to an error of diagnosis. I shall then throw these into the form of separate tables, so as to enable the Society to form a correct judgment of the whole.

1. The ovary was first *removed*, I believe, by L'Aumonier

* Pract. Obs. Part I. p. 120.

of Rouen,* on certainly very slight grounds. The disease appears to have been an abscess of the ovary (after delivery) communicating with the uterus by means of the Fallopian tube. M. L'Aumoniér opened the abdomen by an incision four inches long, and removed the ovary. The patient recovered.

2. In 1809, Dr. M'Dowal of Kentucky operated upon Mrs. Crawford. The incision was nine inches long, a ligature was tied round the Fallopian tube, the tumour opened and removed, and the patient recovered. The tumour contained gelatinous matter, and the sac weighed seven pounds and a half.

3. He repeated this operation some time afterwards upon a Negro woman, but found the tumour so firmly adherent to the bladder and uterus that he feared to remove it, and therefore merely evacuated the jelly-like fluid and closed the wound. The woman recovered.

4. In 1816 he performed the operation for the third time, and on a Negro woman. The incision extended from two inches above the umbilicus to within one inch of the pubis; the ligature was applied around the Fallopian tube, and the tumour excised. It proved to be a scirrhus ovary. The woman rapidly recovered."†

5 & 6. The American Editor of Good's Study of Medicine refers to two other successful cases by Dr. M'Dowal, but I am not able to give the particulars.‡

7. Moreover in the New York Medical Journal, 1824, Mr. Foltz speaks of a case by Dr. M'Dowal, which proved fatal, and the British and Foreign Review mentions a fatal case also, but whether the same or different I do not know. At least it would appear that Dr. M'Dowal performed the operation six times.

* Edin. Med. Surg. Jour. Vol. xviii. p. 532.

† Lizar's Observations on the Extraction of diseased Ovaria, pp. 4, 5.

‡ "Dr. M'Dowal has recorded five cases in which this operation was successful. The ovarium has been extirpated also by Dr. D. L. Rogers of New York. The patient recovered, but died with dysentery eighteen months after the operation. Dr. Alban G. Smith has likewise performed the same operation, and with highly beneficial results."—*Note in Amer. Edit. of Good's Study of Medicine*, vol. ii. p. 590.

8. Dr. N. Smith of Connecticut, operated upon Mrs. Newbridge of Norwich, æt. 33 years, July 5, 1821. The tumour had been growing several years, having disappeared three times, probably from bursting. The incision was three inches long, and the fluid having been evacuated, the sac was separated from its adhesions to the peritoneum and drawn through the wound, a ligature was applied and the sac excised. It weighed two or three ounces. The patient recovered rapidly.

9. In 1823, Mr. Lizars of Edinburgh proposed the operation for the relief of what he conceived to be ovarian disease. The patient was æt. 27, and had one child. The incision extended from two inches below the ensiform cartilage to the pubes, but no tumour could be found. The wound was closed, and the patient recovered..

10. In 1825, he repeated this operation in the case of Janet J., æt. 36, unmarried. The tumour had formed no adhesions, and after the ligature had been applied was easily removed. Some hæmorrhage occurred, but she recovered after some time.

11. In 1825, he operated in like manner upon Isabella C., æt. 25. The tumour was adherent, but he succeeded in separating and removing it. It weighed seven pounds. The patient died in two or three days of gangrene of the peritoneum.

12. He operated a fourth time, upon Magdalen B., æt. 34, unmarried. The tumour was found to be solid and supplied with large vessels, and it was decided not to remove it. The wound was closed, and the patient recovered.*

13. Dr. A. G. Smith of Danville, Kentucky, operated upon a negress, æt. 30, mother of several children. The incision extended from the umbilicus to within an inch of the pubis. Having evacuated the fluid, he drew out the sac, tied its pedicle and removed it. The patient recovered.†

14. Dr. Quittenbaum has published a successful case of extirpation in which the long incision was used.‡

* Lizar, *ut supra*, p. 9, *et seq.*

† North Amer. Med. Jour. Jan. 1826.

‡ *Comment. de Ovarii Hypertrophîâ et Historia extirpationis Ovarii, &c., cum successû factæ.*

15. In 1829, Mr. David Rogers of New York, having first tapped his patient, made an incision from two inches below the umbilicus to the pubes, and having carefully separated the adhesions which the tumour had contracted to the peritoneum, he drew out the sac, applied a ligature and removed it. The solid part weighed three pounds and a half. The patient recovered.*

16. 1826, Dr. Granville opened the abdomen of a patient to the extent of six inches, for the purpose of extirpating an ovarian tumour, but finding it firmly adherent, he decided to leave it, and closed the wound. The patient recovered.†

17. He has published a short account of another case, in which he removed the diseased ovary, but the patient died three days afterwards.‡

18. Previous to 1828 Dr. Dieffenbach operated by the long incision on a patient, æt. 40, but decided not to remove the ovary on account of the supply of large vessels. The patient recovered.§

19. Dr. Chrysmar performed the operation upon a woman, æt. 47, mother of eight children. The incision extended from the xyphoid cartilage to the pubis, and, after evacuating the fluid in the abdominal cavity, the tumour was separated from its adhesions to the stomach and peritoneum, a ligature applied, and removed. It weighed seven pounds and one-third, consisted of cartilaginous and lardaceous matter and green sanies. The patient died in thirty-six hours of gangrene of the intestines.

20. He operated in a similar manner upon a patient æt. 38, mother of five children. The adhesions were cut through, a double ligature applied, and the tumour removed. It weighed eight pounds, and consisted of cells filled with honey-like matter and green sanies. The patient recovered.

21. His third operation was upon a patient labouring under

* American Medical Journal, vol. v. p. 549.

† London Medical and Physical Journal, vol. lvi. p. 141.

‡ Med. Gaz., Jan. 13, 1843.

§ Archiv. Gen. de Med., vol. xx. p. 92.

other diseases. There were but slight adhesions. The pedicle was four inches thick, it was tied, and the tumour removed, weighing six pounds and a half. The woman died in thirty-six hours. The peritoneum and intestines were gangrenous; uterus cartilaginous; right ovary enlarged; tubercles in the liver, &c.*

22. In 1826 Dr. Martini performed the operation upon an unmarried woman, æt. 24. The incision was nine inches long, but the tumour was cartilaginous, and inseparably united to the brim of the pelvis. Dr. Martini contented himself with removing a sacculated portion from the superior part of the tumour, and then closed the wound. The patient died in thirty-six hours, apparently of hæmorrhage.†

23. A case is mentioned in vol. xiv. of Froriep's *Notizen* of this operation, but without the name of the operator. The patient was 48 years old, and had been tapped five times in six months. The tumour had a broad base, and was so firmly attached to the os innominatum that it could not be removed. The patient died on the sixth day afterwards.

24. Dr. Ritter operated upon a woman æt. 31. He first performed paracentesis abdominalis, and a fortnight afterwards removed an enlarged ovary by the long incision. The patient recovered slowly.‡

25. In 1834, Mr. King, of Saxmundham, operated upon Soph. Puttock, æt. 40, but after making an incision seven or eight inches long, no tumour could be found. The patient recovered.

26. In 1836 he operated, by the short incision, upon Hannah Cavell, æt. 37. The tumour, which consisted of a single cyst, with a solid base, was punctured, and twenty-seven pints of fluid evacuated. The sac was then drawn out, and excised below the ligature. The patient recovered.§

* *Archiv. Gen. de Med.*, vol. xx. p. 94.

† *Ibid.* p. 96.

‡ *Med. Jahrbuch d. kk. Oester. Staates*, vol. ii. p. 256. 1832.

§ *Lancet*, Jan. 21, 1837, p. 586.

27. In 1833 Mr. Jeafferson, of Framlingham, operated upon Mrs. B. The incision was about one inch and a half long, and after evacuating the fluid, the sac was drawn out, and, after a ligature had been applied, removed. The patient recovered.*

28. In 1836, M. Dolhoff† operated on M. Bock, æt. 23. The fluid was first evacuated by an incision and puncture. The incision being enlarged, more fluid escaped (fifteen pints in all) and the sac was removed. No adhesions. The patient died in two days of peritonitis.

29. He also opened the abdomen in another case, but the tumour was solid, and so fixed in the pelvis that he did not remove it. The patient died in eight hours.

30. He opened the abdomen of a third patient, but found no tumour. The patient recovered.

31. In November, 1836, Mr. West of Tonbridge operated by the short incision (two inches) on Mrs. Harrison, and having punctured the sac, and drawn off twenty pints of fluid, the sac was easily drawn out and excised, after its pedicle had been tied. There were no adhesions. The patient recovered.‡

32. Mr. Gorham§ states, that Mr. West repeated the operation on Miss S. Twenty-four pints of fluid were evacuated, and the sac extracted. The patient recovered.

33. And on A. M., æt. 24. Her constitution was much shattered previously, and she sank.

34. In another case Mr. West performed the operation; the patient recovered, but was not cured of the disease, as she had to be tapped afterwards.

35. Mr. Gorham also gives a case by Mr. Hargraves. The patient was æt. 40; adhesions had formed, and the cyst was multilocular. The patient recovered, but was not cured.||

* Trans. of Prov. Med. Association, vol. v. p. 245.

† Rust's Magazin, 1838, vol. li. p. 82.

‡ Lancet, Nov. 25, 1837, p. 307. § Ibid. Oct. 14, 1839. || Ibid.

36. In 1840 Mr. B. Phillips operated by the short incision, and the patient died.*

37. In 1841 Dr. Stilling performed the operation upon a patient æt. 22. The incision was six inches long. The patient died of hæmorrhage.†

We now come to Dr. Clay's cases, which have excited so much attention in England.

38. In Sept. 1842, Dr. Clay operated upon Mrs. Wheeler, æt. 46. The incision was twenty-seven inches long; the tumour, partly solid, and partly fluid, weighed twenty-eight pounds, was removed, and the patient recovered.

39. Oct. 7, 1842. Mrs. Berwick, æt. 57. Incision fourteen inches. Extensive adhesions. Tumour excised, weighed twenty-four pounds. The patient recovered.

40. Nov. 8, 1842. Mrs. Edge, æt. 39. Incision twenty-eight inches. Very extensive adhesions. Tumour removed, weighed seventy-three pounds. Patient recovered.

41. Oct. 26, 1847. Mrs. Dillon, æt. 47. Incision sixteen inches. The tumour is described as "anomalous," and with extensive adhesions. It was not removed. She died on the seventh day, of inflammation.

42. Nov. 17, 1843. Mrs. Hardie, æt. 45. Incision fourteen inches. The tumour was a fleshy tubercle of the uterus, and the entire, except the cervix uteri, was removed. The patient died immediately from hæmorrhage.

43. Mrs. Lythgow, æt. 40. Incision fourteen inches. Ovarian tumour, weighed twenty-six pounds; very extensive adhesions. She died in thirty-six hours from hæmorrhage.

44. Aug. 21, 1843. Miss Hayne, æt. 22. Incision fourteen inches. Tumour was adherent, and weighed twenty-six pounds. She recovered.

* Medical Gazette, vol. i. 1840.

† Brit. and For. Rev. Extracted from Holscher's *Hanoversche Annalen*, Hft. 3, 1841.

45. Aug. 30, 1843. Mrs. Elliott, æt. 40. Incision fourteen inches. No adhesions. She died thirty-six hours after excision, of inflammation.

46. Oct. 2, 1843. Miss Jackson, æt. 43. Incision fourteen inches. Extensive adhesions. Tumour removed, weighing thirty-one pounds. She recovered.

47. Oct. 3, 1843. Mrs. Jones, æt. 59. Incision sixteen inches. Very extensive adhesions. Tumour removed, weighing fifty-four pounds. The patient died of exhaustion thirty-two hours afterwards.

48. Oct. 4, 1843. Mrs. Brocklehurst, æt. 45. Incision fourteen inches. The tumour was an hydatid, weighing sixteen pounds, and was excised. She recovered.

49. Oct. 9, 1843. Mrs. Tweedale, æt. 58. Incision eight inches. This was a case of pelvic tumour, but of what nature I am not aware. It was removed, and weighed twenty-four pounds. Dr. Clay says the patient recovered from the operation, but died on the tenth day.

50. Nov. 16, 1843. Mrs. Priest. Incision sixteen inches. An ovarian tumour, having very extensive adhesions, and weighing twenty-six pounds, was removed. The patient recovered.*

51. Jan. 6, 1844. Patient, æt. 49. She had ten children. After the abdomen was laid open by the long incision, the disease was found to be uterine. A ligature having been applied around the cervix, the uterus and ovaries were removed without hæmorrhage. The patient died after three weeks.

52. In 1843 Mr. Morris performed the major operation successfully.†

53. In 1842 Mr. Walne operated by the long incision upon Mrs. F., æt. 58, mother of five children. The tumour was free from adhesion, and after the application of the ligature, was re-

* I am indebted to the politeness of Dr. Clay for this corrected list of all the operations he has performed. Only part of them have been published in the Medical Times.

† Manchester Courier.

moved. It consisted of many cysts and solid basis. The patient recovered.*

54. He operated again in 1843 upon Mrs. R., æt. 57, after applying a double ligature round the tumour, which weighed sixteen pounds three quarters. The patient recovered.

55. In the same year he operated upon Miss A. K., æt. 20. The broad ligament constituted the pedicle, and a ligature having been applied, it was divided. The tumour weighed twenty-eight pounds. The patient recovered.

In none of these cases were there any adhesions between the tumour and surrounding parts.†

56. Oct. 11, 1843, he operated upon Mrs. P., æt. 54, and after making an incision five inches long, he found such extensive adhesions that he desisted, and closed the wound. The patient recovered.

57. In another case he removed a diseased ovarium with a fatal result.‡

58. In 1843 Mr. Southam operated upon Mrs. H. by the long incision. The tumour, before the operation, was perfectly moveable, and proved to be cystic sarcoma, weighing four pounds twelve ounces. The ligature was applied, and the diseased ovary removed. The patient recovered.§

The account given by Mr. Southam is remarkably interesting, and speaks well for the practical sagacity of that surgeon. I have been much indebted to his extensive researches in the collection of these cases.

59. In June, 1843, Dr. F. Bird of London performed the operation. The incision was three or four inches long. The sac was punctured, and then drawn out and excised, after the application of a ligature. The patient recovered.||

60. He has repeated the operation since with success. The tumour consisted of cysts and solid matter, and weighed twenty-seven pounds.¶

* Medical Gazette.

† Ibid.

‡ Med. Gazette, Feb. 23, 1844, p. 686.

§ Med. Gazette. 1843.

|| Med. Gazette, Aug. 18, 1843.

¶ Ibid. Dec. 29, 1843, p. 409.

61. In the last *Medico-Chirurgical Review** is a case copied from the *New York Journal*, in which the operation was performed by Dr. Atlee of Lancaster, U. S., in June, 1843. The patient had been tapped for ascites three times, and only after the third time was the tumour detected. The operation consisted in an incision nine inches long, which exposed two ovarian tumours, with adhesions. The latter were separated, the pedicles tied, and both ovaria removed. The patient recovered well.

62. In a recent Number of the *Medical Gazette*† is an account of an operation, by Mr. Heath of Manchester, for the removal of supposed ovarian tumour, but upon making the long incision it was discovered that the tumour was uterine. The operator determined to remove the uterus, tumour and all. The patient died of hæmorrhage in seventeen hours. The symptoms were those of a uterine, and not ovarian tumour, and allowing that such a mistake might be made without blame, it would have been far better not to have meddled with a disease which seldom, if ever, compromises life, and hardly interferes with comfort.

The last Number of the *British and Foreign Medical Review*‡ notices some additional cases.

63. The first was by Mr. Lane, who tapped the patient ten days before the operation, and extracted the ovary through an incision, reaching from the umbilicus to the pubis. The patient has so far recovered.

64. Mr. Key also performed the operation in Guy's Hospital, July 29, 1843. Patient aged 19, unmarried. Incision four inches at first. No adhesions. Incision enlarged up to near ensiform cartilage. Pedicle small. Ligature applied, and tumour removed. Tumour multilocular cysts, with large vessels. Patient died Aug. 6, of peritonitis.§

65. Mr. Greenhow, of Newcastle, operated Sept. 3, 1843. Patient aged 29, married. For four years she suffered from fre-

* Jan. 1844, p. 258.

† Dec. 8, 1843.

‡ Jan. 1844, p. 237.

§ *Guy's Hos Rep.*, Oct. 1843, p. 473.

quent uterine hæmorrhage. Long incision. Several adhesions; ligature applied, and tumour excised. Patient died on seventh day, of peritonitis.*

66. Mr. B. Cooper operated. Patient aged 32, married, but had no children. Long incision. Some adhesions. Double ligature, and excision. Patient died of peritonitis the seventh day,† in consequence apparently of a portion of omentum being included in the ligature.

TABLE I.—*Cases of Extirpation of the Ovary.*

No. and Date.	Operator.	Age	Incision.	Result.	Character of Disease.	Adhesions.
1	L'Aumonier.	..	4 inches.	Recovered.	Abscess of ovary.	
2—1809	Dr. M'Dowal.	..	9 do.	do.	Gelatinous matter.	
3—1816	do.	..	Long.	do.	Scirrhus ovary.	
4	do.	..	..	do.		
5	do.	..	..	do.		
6	do.	..	..	Died.		
7—1821	Dr. N. Smith.	33	3 inches.	Recovered.	Cyst, fluid.	Adhesions.
8—1825	Mr. Lizars.	36	Long.	do.		
9—1825	do.	35	do.	Died.		Adherent.
10	Dr. A. G. Smith.	30	do.	Recovered.	Cyst, fluid.	
11	Dr. Quittenbaum.	..	About 4 in.	do.		
12—1829	Mr. D. Rogers.	..	About 3 in.	do.	Solid and fluid.	Adhesions.
13	Dr. Granville.	..	..	Died.		
14	Dr. Chrysmar.	47	Long.	do.	Cart. and lardaceous matter.	Adherent.
15	do.	38	do.	Recovered.	Honey-like and green sanies.	do.
16	do.	..	do.	Died.		
17	Dr. Ritter.	31	do.	Recovered.	Cyst, fluid.	
18—1836	Mr. King.	57	Short.	do.	do.	
19—1833	Mr. Jeafferson.	..	do.	do.	do.	
20	M. Dolhoff.	23	Long.	Died.	Cyst and fluid.	Adhesions.
21—1836	Mr. West.	..	Short.	Recovered.	do.	
22	do.	..	do.	do.	do.	
23	do.	24	do.	Died.	do.	
24	do.	..	do.	Not cured.	do.	
25	Mr. Hargraves.	40	do.	do.	Multiloc. cysts.	Adhesions.
26	Dr. Clay.	46	27 inches.	Recovered.	Cysts, sol. and fluid.	do.
27	..	67	14 do.	do.	do.	Ext. adh.
28	..	39	28 do.	do.	do.	do.
29	..	40	14 do.	Died.	do.	do.
30	..	22	14 do.	Recovered.	do.	Adhesions.
31	..	40	14 do.	Died.	do.	None.
32	..	43	14 do.	Recovered.	do.	Ext. adh.
33	..	59	16 do.	Died.	do.	do.
34	..	46	16 do.	Recovered.	do.	do.
35—1840	Mr. B. Phillips.	..	2 inches.	Died.		
36—1841	Dr. Stilling.	..	6 do.	do.		
37—1842	Mr. Walne.	58	Long.	Recovered.	do.	None.
38—1843	do.	57	do.	do.	do.	do.
39	do.	21	do.	Died.		
40—1843	do.	20	do.	Recovered.	do.	do.
41—1843	Mr. Morris.	..	do.	do.		
42—1843	Mr. Southam.	..	do.	do.	Cystic sarcoma.	do.
43—1843	Dr. F. Bird.	..	3 or 4 in.	do.	Cyst and fluid.	do.
44—1844	do.	..	do.	do.	Cysts and solid matter.	do.
45	Mr. Atlee.	..	9 inches.	do.		Adhesions.
46	Mr. Lane.	..	Long.	do.	Cysts fluid.	None.
47	Mr. Key.	19	do.	Died.	do.	do.
48	Mr. Greenhow.	29	do.	do.		do.
49	Mr. B. Cooper.	32	do.	do.		

* Med. Trans., Jan. 20, 1844, p. 240.

† Ibid. p. 241.

TABLE II.—*Cases of ovarian Disease in which the Operation could not be completed.*

Date.	Operator.	Cause of Failure.	Result.	Incision.
50	Dr. M'Dowal.	Adhesions to bladder and uterus.	Recovered.	Long.
51	Mr. Lizars.	Solid and very vascular tumour.	do.	do.
52—1826	Dr. Granville.	Firm adhesions.	do.	6 inches.
53	Dr. Dieffenbach.	Vascularity.	do.	Long.
54—1826	Dr. Martini.	Solid and fixed tumour.	Died.	do.
55	Anonymous.	Fixed tumour.	do.	
56	M. Dolhoff.	do.	do.	About 6 in.
57	Dr. Clay.	Exten. adhesions.	do.	Long.
58	Mr. Walne.	do.	Recovered.	5 inches.

TABLE III.—*Cases in which the Operation failed from an Error in Diagnosis.*

Date.	Operator.	Result.	Disease.
59—1823	Mr. Lizars.	Recovered.	No tumour found.
60—1834	Mr. King.	do.	do.
61	M. Dolhoff.	do.	do.
62	Dr. Clay.	Died.	Uterine tumour.
63	do.	Recovered.	Hydatid.
64	do.	Died.	Pelvic tumour.
65	do.	do.	Uterine tumour.
66	Mr. Heath.	do.	do.

Let us now attempt a little closer analysis of these cases. It will be remembered that the question at present is not whether each operation was justifiable or suitable, but merely as to the results of the operation under given circumstances.

1. The entire number of cases—whether dropsy, or scirrhus of the ovary, uterine disease, or simulated tumours—amount to sixty-six: of these forty-two recovered, and twenty-four died, or about 1 in $2\frac{3}{4}$.

Of the forty-nine cases (Table I.) in which the ovary was extirpated, sixteen died, or 1 in $3\frac{1}{6}$. Of the nine cases (Table

II.) in which the operation could not be completed, four died, or 1 in $2\frac{1}{4}$; and of the eight cases (Table III.), where the operation was unnecessary, four died, or 1 in 2.

2. It is not quite so easy to give the comparative mortality of the long and short incision, because the definition of each is scarcely settled. Taking the length of the wound as our guide, without reference to the tapping of the tumour before extraction, we will include all cases under the term "minor operation," where the incision did not exceed four inches; and under the term "major operation," where it exceeded that.

Of the true ovarian cases in Table I. there are fourteen cases of the short operation, of these thirteen recovered, and two died; and thirty-four cases of the long operation, of whom twenty-one recovered, and thirteen died, or 1 in $2\frac{8}{13}$. In the second and third Table there are fifteen cases of the long operation, of whom seven died, or 1 in $2\frac{1}{7}$. Of the forty-nine cases of the long operation twenty died, or 1 in $2\frac{1}{2}$. At the same time it must be observed that in the cases of the short operation there are much less irritation and injury owing to the absence of adhesions; and in some cases the short operation would have been perfectly useless, so that if any attempt were to be made, it must be by the long incision, with all its risks. The comparison therefore is not quite fair.

3. Age does not appear to have had much influence upon recovery or death, for the ages mentioned in six of the fatal ovarian cases were 23, 25, 40, 40, 47, and 59; whilst those of the successful ones range between 20 and 60.

The same may be said, as far as the information extends, of the married or single condition of the patients.

4. At first sight one would expect a considerable variation in the result of cases in which there were adhesions from those in which there were none, because of the violence necessary; and this seems to be confirmed by the cases of Chrymer and others, where the patients died of gangrene of the peritoneum; yet of seventeen cases in which the adhesions were found, and in some very extensive, eleven recovered, and six died. This,

however, shews the great disadvantage of adhesions, and there are certain cases, one of which we have just seen, in which these were so extensive that removal of the tumour would have been impossible.

5. Certain of the operations (Chrymer, Clay, &c.) were performed upon women labouring under other organic diseases, or suffering from great constitutional exhaustion, and these cases proved fatal.

6. The operation was several times frustrated by the excessive vascularity of the tumour, or its firm attachment to the pelvis, and though several of them (four out of eight) recovered, yet these are additional reasons for serious investigation.

7. It is further shown by Table III. that the operation was performed when no tumour at all existed—when the tumour was uterine, or growing from the pelvis, or an hydatid. At first sight it might be supposed that such errors of diagnosis were the result of carelessness, and that the first could scarcely occur. And yet Mr. Lizars is a surgeon of no mean experience; and M. Dolhoff had his patient in hospital under his observation for a year or so. Very lately I was consulted for a supposed ovarian tumour, and upon examination there was a distinctly shaped abdominal tumefaction, which had all the feel of a uterine or ovarian tumour, and yet upon calling off the patient's attention, and setting the abdominal muscles into action, it entirely vanished.

It may be worth while now to look a little closer at the *diagnosis* of these tumours.

1. The abdominal muscles appear to acquire the power of involuntarily assuming the form and appearance, and of communicating the sensation of a tumour. In some cases it seems as though the result of the form given to them by a former pregnancy. Against this deception we can in a great measure guard ourselves, by prolonging our abdominal manipulation, and calling the muscles into action by leading the patient to converse. Percussion will also aid us in coming to a right conclusion, and

if we make an examination per vaginam and per rectum, there will be but little doubt remaining. And I would observe that an examination per rectum is most valuable in all cases of real or supposed ovarian disease.

2. In the majority of cases the continuity of the tumour, ascertained by the perception with a finger on the os uteri of a shock impressed upon the abdomen, is nearly decisive of a tumour being uterine, and the very feeble or absent impression of such shock, of its being ovarian. The exceptions are mainly those cases where adhesions have taken place, uniting the pelvic viscera closely together. Dr. Simpson of Edinburgh has recently proposed the use of a bougie for this purpose. It is to be introduced into the uterus, and then, he states, that by turning it one way, and pressing the tumour the other, it is quite possible to establish a distinction between the uterus and ovary in cases of ovarian disease. Or it might be possible that the direction taken by the bougie would establish the same fact.

Again, a careful examination per rectum and per vaginam will very often, even where the tumour is adherent, prove that there are two tumours, and their different density, or the comparative vividness of shocks communicated from the abdominal tumour, may justify the inference that one is the uterus and the other the ovary.

Lastly, the history of the disease may throw some light upon its nature. Uterine tumours are *generally* of slower growth, of smaller size, more dense to the touch, seldom attacked by inflammation, and rarely painful; and although none of these circumstances are conclusive alone, they may be very decisive in conjunction with other signs.

3. It may not be very difficult to come to a conclusion as to the existence of adhesions, though far from easy to estimate their extent. The mobility of the tumour, if it do not fill the entire abdomen, will generally decide the question; but when the disease attains an enormous volume, we can do little more than form a conjecture. There is a sort of rolling feel when a

tolerably free ovarian tumour is moved, and a crepitus when adhesion has occurred, which is not easily mistaken; and a change of posture may afford additional information.

4. It is, of course, almost impossible to estimate the vascularity of an abdominal tumour. Occasionally we may distinguish with the finger the pulsation of an artery, and more than once I have ascertained the fact with the stethoscope. A careful examination should always be made with this instrument.

These hints may show at least the obscurity of the means of diagnosis, and perhaps aid a little in dispelling some of that obscurity. At all events it is certain that difficulty and doubt exist, or such mistakes would not have happened in the hands of careful men; and as these errors may be repeated, I would earnestly advise that when, on opening the abdomen, the tumour is found to be uterine, no attempt be made to remove it. The patient has a far better chance of recovery if the disease be untouched, and it is unlikely that any evil consequences will result from the tumour itself. It is a sad reproach that a patient should die, not of the operation, but in consequence of attempting that which was not originally contemplated.

Conclusions.—Even after the details I have given, it is very difficult to come to a definite and perfectly satisfactory conclusion, because, 1. we have not sufficiently accurate data to estimate the progress of the disease unaided by surgery. 2. The table quoted from Mr. Southam is clearly too limited to afford a fair average of the results of tapping, and it is not easy to obtain sufficient facts to enlarge it. 3. The cases in which ovariectomy has been performed are of such a mixed character, that it is impossible to select with fairness those cases in which the operation was demanded for the relief of urgent suffering, and suitable to the nature of the disease, without the appearance of partiality. And 4, from the obscurity of the diagnosis, it is too much, perhaps, to expect that our practice in future will be free from those drawbacks on the operation.

But bearing in mind these difficulties, and making allowance

for those drawbacks, I think we may conclude that there are cases in which the operation would be justifiable; and on these grounds,—we find the general opinion is against the curability of the disease by medical means;—that after a time the patient will die from local disease or accident, or constitutional disturbance, and that meantime she suffers more or less inconvenience;—that tapping in almost all cases affords but temporary relief;—and that, as far as the limited statistics we have adduced are admissible as evidence, it is attended with great danger: i. e. 1 in 5 died of the first operation, and of twenty patients, fourteen (more than two-thirds) died within nine months of the first tapping; whilst of the entire number of those who underwent the operation of ovariectomy, about one-half have absolutely recovered so far.

We may add, that of those who died, some were in an unfavourable condition for any great operation, and many had no other hope of relief.

2. If we reject those cases in which the operation could not be completed—those in which it was unnecessary, and those when the patient laboured under organic disease, or a debilitated and broken constitution, the mortality is twelve in forty-two, or 1 in $3\frac{1}{2}$. Even making allowance for the difficulty of diagnosis, it does appear to us that in future sufficient judgment may be exercised to reduce the proportion to something near this.

3. Again, if the operation were confined to cases of unilocular cysts without adhesions, or even to cases requiring the major operation where no adhesions exist, the results, according to our statistics, would be more favourable. At present it would seem desirable, if possible, to limit the operation to these cases.

4. Let it be observed, that so far we have canvassed the merits of the operation *on the recorded results*, not on the propriety or impropriety of it in any or all of the cases related; but it would be impossible to shut our eyes to the fact, that it has been sometimes performed without a due regard to the condition

of the patient—to the necessity of an operation at all—or to the one in question being exactly adapted for the purpose.

To justify the operation in an individual case, the patient should be so far inconvenienced by the disease as to require surgical relief of some kind ; and yet, on the other hand, she ought not to be in a condition which would prohibit other great surgical operations. In such cases the alternative is tapping or extirpation, and our judgment should be formed upon a careful estimate of the results of each.

Again, it is clear that no operation of this magnitude should be attempted when there is coincident organic disease of a serious character in other organs ; nor have we sufficient evidence to justify an extension of the operation to other diseases than those of the ovaries.

5. As to the mode of operating, it appears to me, that it is better to commence with the small incision, and, if necessary, afterwards enlarge it. The great advantage of this plan appears to be, that after making the incision (in some sort an exploratory one), if the sac, after being emptied, can be drawn out, we escape with the slighter risk ; if there be obstacles, owing to solid matter, it can be enlarged without difficulty ; and if these obstacles be such as to deter us from completing the operation, we can recede with much less danger to the patient ; and this I think of vast importance, considering the present uncertainty of our diagnosis.

I have thus endeavoured to lay before the Society such information as I have been able to obtain concerning this important operation, without appearing as its advocate or its opponent. beyond what the statistical results will justify. These results are, I think, neither so favourable as some of its friends have represented, nor so discouraging as its opponents have asserted.