

OBSERVATIONS ON ABDOMINAL SURGERY,
BASED UPON A REPORT OF FIFTY-SEVEN
LAPAROTOMIES PERFORMED WITHIN
A YEAR.

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In a short paper read before the New York Pathological Society, June 24, 1885, I stated that I had done 25 laparotomies for removal of diseased appendages; three of these died, and that of 25 other laparotomies that I had done up to that date three had died, two of the three being hysterectomies. From June 24, 1885, to June 24, 1886, I opened the peritoneal cavity 57 times, six of these died from the effects of the operations. One of these six was a hysterectomy, and a second was for the relief of general septic peritonitis.

In all, I have done 107 laparotomies. Of these, six were hysterectomies and one for general septic peritonitis. Excluding these, of the 100 remaining, eight died. Thus, in my first 100 cases of laparotomies, excluding hysterectomies and general peritonitis, I have had a death-rate of 8 per cent; 50 of the 100 were done in Bellevue Hospital; of these four died. The other 50 were private patients, and four of these died. So far, I have never yet refused to operate in any case where there was the slightest chance of saving life. Six of the twelve fatal cases were done as a last resort, with little hopes of success. All twelve of the fatal cases were complicated. Four died of shock, and eight of acute septicemia. So far I have never had a ligature slip, or serious hemorrhage after closing the wound.

Of the 57 cases operated upon in the past year, 32 were

for the removal of the uterine appendages, 8 for ovarian tumors, 2 for hysterectomies, 1 for myotomy, 1 for tubal pregnancy, 1 for intestinal obstruction, 1 for suppurative perityphlitis, 2 for tubercular peritonitis, 1 for exploratory cancer of liver and intestines, 1 for general septic peritonitis, 6 for ventral hernia after laparotomy, 1 for umbilical irreducible hernia.

Laparotomies done from June 24, 1875, to June 24, 1886.

No. of case.	Hospital or private.	Date.	Age.	Condition.	Children.	Abortions.	Remarks.	Result.
PYOSALPINK AND OVARITIS.								
1	H.	Oct. 11, '85.	32	M.	3	1	Adhesions; tubes occluded.	R.
2	H.	Oct. 19.	41	W.	1	..	Adhesions; tubes occluded.	R.
3	H.	Nov. 12.	22	M.	1	1	Adhesion; tubes occluded; a pelvic abscess size of orange.	R.
4	P.	Nov. 28.	27	M.	1	..	Tubes indurated, occluded, and adherent.	R.
5	P.	Jan. 28, '86.	39	M.	3	..	Pelvic abscess, 9 ounces.	R.
6	H.	April 3.	22	M.	1	..	Large, adherent, and occluded tubes.	R.
7	P.	April 7.	27	M.	..	1	Ovaries large as lemon, tubes adherent and occluded.	R.
8	P.	April 21.	27	M.	..	1	Ovaries large; tubes size of rest, adherent.	R.
9	H.	May 10.	28	M.	..	..	Tubes large, occluded, and adherent.	R.
10	P.	May 12.	33	M.	..	..	Ovaries size of orange; pint of brownish fluid; extensive adhesions.	D.
11	H.	May 20.	33	M.	..	1	Large, adherent, and occluded tubes.	R.
12	H.	May 20.	45	S.	..	..	Large, adherent, and occluded tubes.	R.
13	H.	June 3.	23	M.	..	1	Pelvic abscess, adherent, occluded tubes.	R.
14	P.	June 19.	32	M.	..	5	One cyst held quart of fluid.	R.
HYDROSALPINK.								
15	P.	Nov. 4, '85.	43	W.	2	..	Extensive adhesion; degenerated ovaries; 3 pints fluid in right tube.	R.
16	P.	May 27, '86.	34	M.	..	..	Both tubes occluded, one size of orange.	R.
17	H.	Dec. 10, '85.	32	M.	..	1	Left ovary enlarged, adherent; tubes adherent.	R.
DEGENERATION OF OVARIES AND HYSTERO-EPILEPSY.								
18	P.	Oct. 5, '85.	27	S.	..	..	Prolapsed and adherent; left ovary only; left removed; under treatment for six years—practically bedridden.	R.
19	H.	Oct. 28.	21	S.	..	..	Cystic degeneration of ovaries; hystero-epilepsy; unable to work.	R.
20	H.	Nov. 7.	71	S.	..	..	Cystic degeneration of ovaries; hystero-epilepsy of severe form.	R.
21	P.	Nov. 16.	23	M.	..	..	Cystic degeneration; one ovary size of an orange; hematocele large as lemon; hystero-epilepsy for seven years, much affected.	D.
22	P.	Dec. 23.	26	S.	..	1	Fibroid degeneration of ovaries; double normal size; adhesions; intense local pain; fear of insanity.	R.

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DEGENERATION OF OVARIES AND HYSTERO-EPILEPSY (continued).								
23	P.	Dec. 10, '85.	28	S.	..	1	Tubes normal; ovaries enlarged and cystic; R. well marked hystero-epilepsy; local pain.	
24	P.	May 3, '86.	30	S.	..	..	Prolapsed and adherent left ovary; only left removed; bedridden; intense local pain.	R.
25	H.	May 5.	22	S.	..	..	Atrophy of left ovary, size of bean; right normal and not disturbed; severe and constant pain; bedridden.	R.
26	P.	May 29.	33	S.	..	..	Typical cystic degeneration of ovaries; mere bags of small cysts; local pain; 15 years an invalid; six years in bed.	R.
27	H.	June 3.	45	M.	9	3	Prolapsed adherent ovaries; local pain constant; unable to walk; for several years an invalid.	R.
28	P.	June 5.	33	S.	..	..	Prolapsed adherent ovaries; local pain constant; eight years an invalid.	R.
29	P.	June 12.	21	S.	..	..	Cystic degeneration and enlarged ovaries; local pain; hystero-epilepsy; 3 years.	R.
30	H.	May 20.	30	S.	1	..	Prolapsed and slightly adherent ovaries; R. tubes normal; neither removed; local pain; chronic hospital invalid.	R.
HEGAR'S OPERATION FOR FIBROMATA.								
31	P.	July 2, '85.	38	M.	1	..	Appendages removed for large submucous fibroid; three weeks later fibroid sloughed and was removed <i>per vaginam</i> .	R.
32	H.	Apr. 19, '86.	32	S.	..	..	Appendages removed for painful multiple fibroid.	R.
EXTRA-UTERINE PREGNATION.								
33	H.	June 17, '85.	29	W.	2	1	Left tube distended with placenta and 4-months' fetus; suppurating; very feeble; bed sores and septic fever.	R.
HYSTERECTOMIES.								
34	P.	Oct. 10, '85.	38	W.	..	..	Two vascular myomata, one in each broad ligament, size of full-term pregnancy; the small fundus compressed the stomach.	D.
35	P.	Nov. 26.	44	M.	1	..	Adeno-sarcoma of mucous membrane of the uterus, size of five-months' pregnancy.	R.
36	P.	May 8.	30	M.	2	..	Large fibro-cystic tumor of uterus, complicated by a large cyst filled with papilloma.	R.
OVARIAN TUMORS.								
37	P.	Sept. 26, '85.	41	W.	1	..	Ovarian tumor, 16 lbs.; papillomatous lining.	R.
38	H.	Oct. 1.	62	W.	..	..	Simple ovarian tumor, 20 lbs.	R.
39	P.	Nov. 25.	55	M.	6	..	Multilocular ovarian tumor, 40 lbs.	R.
40	P.	Dec. 18.	30	M.	1	..	Dermoid cyst, gangrenous, filled with gases, etc.	D.

Laparotomies done from June 24, 1875, to June 24, 1886.

No. of case.	Hospital or private.	Date.	Age.	Condition.	Children.	Abortions.	Remarks.	Result.
OVARIAN TUMORS (continued).								
41	H.	Feb. 15, '85.	'36	M.	3	3	Multilocular ovarian tumor, 30 lbs.	R.
42	H.	March 28.	30	M.	1	..	Suppurating cyst, 6 lbs.	R.
43	H.	April 24.	64	W.	5	..	Multilocular cyst, 43 lbs.; tapped 11 times; very feeble and anemic.	D.
44	P.	April 26.	42	M.	3	3	Multilocular cyst, 16 lbs.	R.
INTESTINAL OBSTRUCTION.								
45	H.	June 28, '85.	25	M.	..	1	Bands of adhesion constricting the colon near the sigmoid flexure.	R.
PERITYPHLITIS.								
46	H.	Aug. 24, '85.	22	Ma.	le.	..	Suppurating perityphlitis, 10 ounces; pus and gas.	R.
EXPLORATORY INCISION.								
47	H.	Oct. 23, '85.	74	W.	..	..	Abdominal dropsy from cancer of liver and intestines.	R.
TUBERCULAR PERITONITIS.								
48	H.	Apr. 12, '86.	32	M.	5	..	Abdominal dropsy from tubercular peritonitis; drainage tube kept in as long as there was discharge.	R.
49	H.	May 26.	54	M.	5	..	Abdominal dropsy from tubercular peritonitis; drainage tube kept in as long as there was discharge.	R.
GENERAL PERITONITIS.								
50	H.	Mar 20, '86.	36	M.	2	..	Suppurative general peritonitis due to bursting of a large pyosalpinx.	D.
VENTRAL HERNIA FOLLOWING LAPAROTOMY.								
51	P.	June 24, '85.	33	M.	1	..	Small ventral hernia after laparotomy; drainage-tube had been used.	R.
52	H.	Nov. 19.	25	M.	..	..	Small ventral hernia after laparotomy; drainage-tube had been used.	R.
53	P.	Nov. 23.	37	M.	1	..	Large hernia after laparotomy, complicated by abscess around the ligature of pedicle; drainage-tube had been used.	R.
54	P.	Nov. 27.	29	M.	3	..	Large ventral hernia after laparotomy; drainage-tube had been used; tissue badly scarred from old mural abscess.	R.
55	P.	Feb. 4.	29	M.	3	..	Small ventral hernia; second operation of Case 54.	R.
56	H.	Feb. 13.	30	M.	1	..	Very large ventral hernia; all intestines and part of stomach protruding; second operation after one year's time.	R.
IRREDUCIBLE HERNIA.								
57	H.	Jan. 21, '86.	47	W.	4	5	Large irreducible hernia; skin ulcerating.	R.

I have so recently given my views on diseases of the uterine appendages¹ that I will only refer to a few points :

ETIOLOGY.—In fifty cases where I operated for diseased tubes or ovaries, exclusive of those associated with large tumors, 24 proved to be pyosalpinx. Only two of the 24 were single women ; 19 of the 22 married women had had either children or miscarriages. The children numbered 24 and abortions 20. This certainly goes to prove that having children, and especially abortions, renders women much more liable to have diseased Fallopian tubes. There seems to be little doubt but that gonorrhoea causes a certain number of cases of pyosalpinx, but my belief is that the majority are due to septic endometritis contracted during or after labor and abortions, and extending from the lining membrane of the uterus to the tubes.

Before the importance of cleanliness was understood, we all know how very common it was for lying-in women to have more or less fever, and, even yet, many doctors think it of little consequence if the temperature of a lying-in patient does not rise above 103°. In reporting the last 30 cases I have taken pains to separate those cases operated upon for symptoms affecting chiefly the nervous system, such as hystero-epilepsy, local pain without any inflammatory changes or other positive physical indications of local disease that could be diagnosed before the operation. Out of 30 operated on the past year, excluding pyosalpinx and hydrosalpinx, there are twelve. In four of this number the ovaries were enlarged so that I could make out abnormal changes before operating. Of 12, only two were married, but two of the single women had had abortions, and one had a child.

In the 12 cases the ovaries seemed to be the offending organs. The predominance of single women would seem to indicate either that single women are more liable to ovarian disease resulting in hysteria, etc., or that women with such ovaries are not selected in marriage.

¹ *New York Medical Record*, January 24 and February 7, 1885, and August 29th; and *The Medical News*, March 27, 1886.

I can say this about these cases, that the majority are small, delicate, imperfectly-developed women, and I think that the real cause of the abnormal local conditions, the small antiflexed uterus, with its hyperæsthetic mucous lining, the elongated varicosed Fallopian tubes, the prolapsed ovaries in a state of cystic degeneration (the result of imperfect or perverted formation of ova), is really one of imperfect development. To prevent this, girls must be kept in good general health during the period of development. In fact, they should have a surplus of strength to develop healthy generative organs, for they are the last to develop. If these cases are properly treated in the early stages by improving the general health, and, if necessary, by stimulating local treatment, most of them can be cured; but if they are neglected or improperly treated, and develop hystero-epilepsy, or are broken down invalids at thirty, then I think any operation that promises a cure is justifiable, provided the patients are perfectly willing to take the risk. Mistakes will be made, the operation will be abused; but what operation or what drug that has power in medicine has not been abused? There will be objections, especially from those who have never operated, and particularly from those who have not been especially successful. Bad luck in operating gives a peculiar individual force to the melancholy warnings of some surgeons.

In any case where I could not make out clearly an abnormal condition of the tubes or ovaries by physical examination, I would always not only hesitate about operating, but would advise it only after all other reasonable means of effecting a cure had been tried.

My experience is that in most cases the results are all that could be expected, especially if we warn our patients not to expect too rapid a change for the better. Six months or a year may pass before any great improvement shows itself. Later I hope to speak more definitely on this subject. With a few good specimens it is an easy matter to demonstrate what one means by cystic degeneration of the ovaries. In

well marked characteristic cases the ovary appears to be a thin membranous sack literally filled (packed) with small translucent cysts about the size of small round peas. They may be aborted ova, but they are not the remains of normal ones. In other cases the cysts are of various sizes, sometimes as large as a lemon, and may be protruding from the ovary. In this last class these cysts frequently burst, and the result is a mild, local peritonitis. I have proved this to my satisfaction by deliberately bursting one or more by pressure from the vagina and keeping the patient in bed. The temperature may rise 101° or 102° , and in a day or so subside, leaving the uterus a little more fixed than before. I am satisfied that the bursting of these cysts accounts for some cases of adhesions and fixed displacements where we can get no history of severe attacks of local peritonitis. With such ovaries as above described, the uterus is usually small and anteflexed, and, if there is dysmenorrhea, the lining membrane is extremely sensitive at the os internum. The pampiniform flexus is nearly always in what appears to be a varicose condition. As a rule, hysterical subjects have cystic degeneration of the ovaries, but I have seen several where the only thing abnormal seemed to be a highly vascular state of both tubes and ovaries, with an abnormal number of bursting or recently-bursting ova on each ovary. The case in which, after opening the abdomen, I closed it without removing the tubes and ovaries, they were slightly adherent and fixed, and appeared to be very vascular and active.

The number of ovarian tumors is relatively small, and I would account for it by the fact that ovarian tumors are hunted out and operated upon by many doctors, while most medical men still regard incurable cases of diseased tubes and ovaries as cases of *chronic cellulitis*, and continue to treat them indefinitely with "hot water vaginal douches, and iodine to the vault of the vagina." If operating for diseased tubes has done nothing else, it has completely exploded the idea of "chronic cellulitis." There is no such disease. There are in New York city at the present time ten cases of dis-

eased tubes and ovaries to each case of ovarian tumor that can be *cured* only by operation for their removal. As a rule, cases of ovarian tumors found in New York city are not tapped; but until the medical profession at large recognize the fact that each tapping adds about ten per cent to the danger of ovariectomy, and after from six to twelve tapplings it is usually too late to operate successfully, the best expert can never hope to do one hundred successive cases without a death in this country, unless he selects his cases. Of the eight cases two were suppurating, and three of the others had been tapped six, ten, and eleven times respectively. One of these was so feeble that only two or three drachms of ether could be safely used to etherize her. She had general anasarca, and her left leg was twice as large as the right. She had been on her back for six weeks. But tapping ovarian tumors is not confined to country doctors; one of the eight cases had not only been tapped by a prominent city doctor, but he had treated the patient for six months with medicines, promising to absorb the tumor, and, after the tapping, kept her in bed three weeks, using compresses, with the object of causing the sides of the tumor to grow together. The case proved to be a simple multilocular ovarian tumor, with a firmly adherent omentum, the result of the tapping.

Hernia after laparotomy, unless we improve upon our methods of closing the abdomen, and use smaller drainage-tube and close the openings left by them, ventral hernia, promises to be very common, especially after the removal of small tumors, tubes, etc., where the abdominal walls are not relaxed by the removal of a tumor that has kept the walls distended and makes apposition easy. Where the intra-abdominal pressure is excessive, as it often is in fat women, hernia is more liable to occur. But the use of a drainage-tube certainly increases the liability of hernia. The membranous tube of adhesions formed around it is either absorbed, or yields to omentum or intestine acting as a wedge, and a hernia soon shows itself, and, if it is in a woman growing rapidly fat, it will soon increase and be a constant source of annoyance if

not of danger to the patient. To prevent hernia after laparotomy, incisions should not be extended longer than is necessary to remove the tumor, especially if the woman is fat, or the tumor quite small, and intra-abdominal pressure very great. The opening in the abdomen should not extend too near the pubic bone. The lower the hernia the more difficult will be the cure. Small drainage-tubes are less likely to be followed by hernia than large ones, and the longer the tube is left in the wound the more likely it is to be followed by a hernia. As a rule, one can tell whether a drainage-tube will be of service after twelve hours, and rarely does it do any good after a day or two. If it is too often disturbed, or especially if an attempt is made to irrigate or wash out the peritoneal cavity, there may be irritation enough produced to keep up drainage a week or more, if the patient survives this useless and dangerous practice. In closing the wound, if it is in the median line, the greatest care should be taken to secure perfect apposition of the edges of the thick fascia that serves as a tendon to the *transverse* muscles. The recti muscles have no transverse strength, and therefore are not important factors in preventing hernia in the median line. In cases where there is much retraction of this thick fascia I always sew it together with extra sutures, after first inserting my deep sutures, which are made to include skin faciæ and peritoneum on both sides.

It is a simple matter to cut down on a small ventral hernia, separate the gut or omentum, dissect out the sac, and bring together the edges of the retracted fascia, but a large one, where the deep fascia has been greatly retracted by the action of the transverse muscles, it is a very tedious operation, after reducing the hernia, to dissect out the edges and bring them together in the median line, which must be done to obtain anything like a permanent result.

I have found by experience that it will not always answer merely to bring the edges together, and I have in two instances, after sewing the edges together, put in a second row of stitches, something like a "Lambert" suture, inserted a

quarter of an inch back of the first row, in such a way as to turn the edges in, and bring into apposition a broader surface of the fascia.

Even in these success is not certain, for some women fatten up so rapidly while lying in bed that the intra-abdominal tension will force the edges apart, and commence a hernia before perfect union has been secured.

Two of the six cases operated upon failed with the first operation and were operated on a second time. In one of these all the intestines were outside, and nearly reached her knees. One of the seven reported was a second operation.

In fat women it will be found best to diet them before and after the operation, so as to lessen the intra-abdominal tension.