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Original Articles.

AN ANALYSIS OF THIRTEEN HUNDRED AND TWENTY-TWO RECENT, UNSELECTED AMERICAN LAPAROTOMIES.

The abdominal sections here summarized were published in tabular form in THE PITTSBURGH MEDICAL REVIEW during 1887 and 1888. They comprise the consecutive work of 82 operators, all the operations having been performed during a period of three years beginning Jan. 1st, 1886. These operations are not the entire work of all these surgeons during the three years; but they are in every case *consecutive operations*, no selection whatever having been made. It is to be noted also that these are all authentic reports, having been in every instance received from and published with the consent of the operators themselves. It is, therefore, believed that they may be taken as a fair representation of the status of abdominal section in this country during the period of three years which closed in December last.

The publication of the tables was discontinued, because it was believed that the reports of thirteen hundred unselected operations, during the period of three years, in one country, would fairly represent the situation, and that the collation of additional statistics of the same nature would not compensate for the expense and labor required.

Several facts of leading interest will be noticed by an examination of the analysis made below. It will be seen that the general mortality of laparotomy for ovarian and parovarian tumors was 14.7 per cent, and that of the sections for removal of ovaries not the seat of tumor was but 7 per cent. Notwithstanding the present consensus of opinion against the tapping of ovarian and parovarian tumors, certainly 61, and probably more, of the 491 cases had been tapped prior to operation. The increase in mortality, however, of the cases that were tapped was less than 2 per cent over those not tapped. The somewhat surprising fact will be noticed that of the 43 tumors of long standing (from 4 to 30 years), but 3 operations proved fatal. This is probably to be accounted for by the absence of malignant cases. That the

removal of the second ovary in case of tumor does not increase the danger, is shown by the fact that of 310 cases in which the second ovary was left the mortality was 15.5 per cent; whereas, of 158 cases in which the other ovary also was taken, the mortality was but 11.4 per cent.

The mortality after removal of non-adherent tumors was 8.2 per cent; of tumors with moderate adhesions, 11.1 per cent; and of tumors with grave adhesions, 20.9 per cent.

The mortality in the private hospital was 11.8 per cent; in private practice, 13.5 per cent, and in general hospitals 20.7 per cent.

Of the 399 operations for removal of ovaries not the seat of tumor, there were but 25 in which a pathological condition is not noted, and it possibly existed in some of these. This shows a laudable disinclination to report oophorectomy for symptoms only. The reports of these operations for nervous symptoms make an unexpectedly favorable showing; those for hystero-epilepsy being 5 cured and 4 improved, in 9 cases. The time, however, that elapsed from operation to report was necessarily rather short to assure permanency of result.

The cases of simple exploratory incision had a high mortality—12, in a total of 84 operations. The hysterectomies showed 21 deaths in an even 50 cases, and, eliminating the work of a few of the more successful operators in this line, this fatality would be very largely increased. The mortality of section for shot wounds of the abdomen (20 cases here shown) is 35 per cent; that of section for stab wounds (12 cases) is 50 per cent.

Of the 432 laparotomies for other purposes than removal of ovaries, the mortality was 32 per cent; so that the devotees of abdominal section cannot yet boast of its perfectly innocuous character.

GENERAL CLASSIFICATION.*

Laparotomies for removal of ovarian and parovarian tumors.....	491
Laparotomies for removal of ovaries not the seat of tumor.....	399
Laparotomies for other purposes than removal of ovaries.....	432

* Ten operations were recorded in the tables, of which no account is taken in this summary, for the reason that, when they were reported to the REVIEW by the operator, he represented them as consecutive cases; later information, however, was received to the effect that the report of these cases was but a very partial statement of his work, and his operations have, therefore, been disregarded in this analysis.

LAPAROTOMIES FOR REMOVAL OF OVARIAN AND PAROVARIAN TUMORS.

AGE.	NO. CASES.	NO. DEATHS.	MORTALITY.
Between 8 and 20 years.	19	1	5.3 per cent.
" 21 " 30 "	159	26	16.4 "
" 31 " 40 "	135	12	8.9 "
" 41 " 50 "	97	18	18.6 "
" 51 " 60 "	53	10	19. "
" 61 " 70 "	21	4	19.4 "
" 71 " 79 "	4	1	25. "
Age not stated in	3	0	0 "
Total.....	491	72	14.7 "

SOCIAL CONDITION.

Single	113
Married.....	343
Widows.....	21
Not stated.....	14

NUMBER OF CHILDREN.

Single women who had borne no children	81
Married " " " " " "	87
Women " " " " 1 child.....	66
" " " " " 2 children	65
" " " " " 3 "	45
" " " " " 4 "	23
" " " " " 5 "	16
" " " " " 6 "	14
" " " " " 7 "	4
" " " " " 8 "	6
" " " " " 9 "	4
" " " " " 10 "	4
" " " " " 11 "	2
" " " " " 13 "	1
Number of children not stated in.....	73

QUESTION OF TAPPING.

Number of patients tapped 1 time.....	32
" " " " 2 times.....	8
" " " " 3 "	6
" " " " 4 "	6
" " " " 5 "	2
" " " " 6 "	2
" " " " 7 "	1
" " " " 10 "	1
" " " " 11 "	2
" " " " 25 "	1

Total number tapped.....	61
Number of patients not tapped	263
Tapping not noted in.....	167
Of 263 patients not tapped, 34 died—12.9 per cent.	
" 61 " " 9 " —14.8 "	

TIME SINCE FIRST NOTICED.

Length of time not stated in.....	159
Tumor unnoticed before operation.....	4
Noticed 1 year or less before operation.....	139
" between 1 and 2 years before operation	82
" " 2 " 3 " " " "	41
" " 3 " 4 " " " "	23
" " 4 " 30 " " " "	43

Of these last 43, but 3 died.

Of 332 cases in which the length of time since the discovery of the disease is noted, the average time was 2 years and 6 months. Of these, 285 recovered, and the average time in these successful cases was 2 years and 7 months; 47 died, and the average time in these fatal cases was 2 years.

NATURE AND SIZE OF TUMORS.

The character of 377 tumors was specified as follows:

- 184 multilocular ovarian cysts (158 single; 13 double), from 171 patients, of whom 22 died;
- 50 dermoid ovarian cysts (34 single; 8 double), from 42 patients, of whom 3 died;
- 45 cysts of the broad ligament, from 45 patients, of whom 4 died;
- 40 unilocular ovarian cysts, from 40 patients, of whom 4 died;
- 15 papillomata (7 single; 4 double), from 11 patients, of whom 1 died;
- 13 sarcomata, from 13 patients, of whom 6 died;
- 10 carcinomata (6 single; 2 double), from 8 patients, of whom 5 died;
- 6 fibro-cysts (4 single; 1 double), from 5 patients, of whom none died;
- 4 colloid cysts (2 single; 1 double), from 3 patients, of whom none died;
- 2 fibromata (ovarian), from 2 patients, of whom none died;
- 2 tubo-ovarian cysts, from 2 patients, of whom none died;
- 1 myxoma; patient recovered;
- 1 racemose cyst; patient recovered;
- 1 myoma (?) (ovarian); patient died;
- 1 dermoid of broad ligament; patient recovered;
- 1 fatty tumor of broad ligament; patient recovered;
- 1 free cyst; patient recovered.

Of 296 cases in which the weight of the tumor is noted there were,

5 lbs. or less.....	40 cases;
Between 5 and 10 lbs.....	33 "
" 10 " 20 "	99 "
" 20 " 30 "	47 "
" 30 " 40 "	27 "
" 40 " 50 "	17 "
" 50 " 60 "	11 "
" 60 " 111½ "	12 "

Average weight, 23 lbs.

NUMBER OF OVARIES REMOVED.

	NO. CASES.	NO. DEATHS.	MORTALITY.
One ovary removed.	310	48	15.5 per cent.
Both ovaries removed.	158	18	11.4 "
Number removed not stated in 23 cases.			

ADHESIONS.

Of 445 cases in which the matter of adhesions is noted, in 147 there were no adhesions; of these there were 12 deaths, a mortality of 8.2 per cent;

In 126 there were slight or moderate adhesions; of

these there were 14 deaths, a mortality of 11.1 per cent;

In 172 there were extensive, universal, intestinal or pelvic adhesions; of these 36 died, a mortality of 20.9 per cent.

DRAINAGE.

Drained.....	144
Not drained.....	308
Drainage not noted.....	39

PLACE OF OPERATION.

	NO. CASES.	NO. DEATHS.	MORTALITY.
Private hospital,	186	22	11.8 per cent.
Hospital,	140	29	20.7 "
Private,	141	19	13.5 "
Not noted,	24	2	8.3 "
Total.....	491	72	14.7 "

REMARKS.*

Peritonitis existed at time of operation in 20 cases, of whom 7 died; these were designated as follows: acute, 2 cases, both fatal; subacute, 1 case, fatal; chronic, 4 cases, all recovered; general, 2 cases, recovered; purulent, 4 cases, all fatal; not designated, 5 cases, recovered.

Septicæmia was present in 1 case, which recovered.

Ascites was present in 16 cases; 2 died.

Peritoneum had been infected by bursted cysts in 6 cases; 2 died.

Uterine myoma co-existed in 10 cases, of whom 4 died; the myomata were removed in 3 of these cases, of whom 2 died.

Infantile uterus present in 2 cases; recovered.

Cystic ovary also present in 17 cases; 1 died.

Ovarian abscess present in 2 cases; both recovered.

Blood cyst of ovary present in 4 cases; 1 died.

Salpingitis present in 3 cases; recovered.

Hydrosalpinx present in 3 cases; all recovered.

Pyoosalpinx present in 19 cases (13 single and 6 double); 2 died.

Hæmatocele present in 3 cases; 1 died.

Varicocele of broad ligament present in 1 case; recovered.

Ventral hernia present, and sac excised in 1 case; recovered.

Twisted pedicle present in 12 cases; 2 died.

Rupture of cyst prior to operation in 18 cases; 5 died.

Suppurating cysts numbered 15, with 7 deaths.

Hæmorrhage into 1 cyst had occurred; recovered.

Acute inflammation of 1 cyst was present; recovered.

Abscess communicating with intestine was present in 1 case which was fatal.

Cyst communicated with bowel in 1 case which was fatal.

*The facts here stated doubtless constitute but a partial report of the cases tabulated, as these particulars were not specifically called for by the form.

The tumor was intraligamentous in 11 cases; 4 died.

The patient was insane in 1 case; recovered.

The patient was childish in 1 case; fatal.

In 3 cases labor had preceded the operation by 5, 6 and 7 weeks respectively; all recovered.

In 1 case premature labor at 7 months had been induced 5 weeks before operation; both mother and child survived.

In 1 case miscarriage at 5 months occurred 2 weeks before operation; patient died of a pre-existing peritonitis.

In 3 cases abortion followed operation, 8 hours, 3 days and 10 days respectively; the first case died, the others recovered.

In 1 case labor at 8 months occurred on the 7th day after operation; the patient died.

In 5 cases pregnant respectively, 2, 3, 4 (2 cases) and 5 months, gestation was not interrupted.

An ovarian tumor on the other side had been previously removed in 2 cases; 1 died.

One operation for removal of cyst of broad ligament was the third operation, the two preceding having been done for right and left ovarian cysts.

Removal had been previously attempted in 2 cases; 1 died.

Urinary bladder opened in 1 case; recovered.

Tumors were enucleated in 2 cases; 1 died.

Inseparable tumors were stitched to external wound and drained in 8 cases; 2 died.

Part of tumor abandoned in 5 cases; 1 died.

One incomplete operation proved fatal.

Hysterorrhaphy was also performed in 2 cases; recovered.

Hæmorrhage after operation occurred in 8 cases; 5 fatal; of these last, 1 was transfused.

Abdomen reopened in 6 cases; in 5 for hæmorrhage, with 3 deaths; in 1 for suspected suppuration, fatal.

In 1 case a fecal fistula resulted from the operation; patient died 3 months later.

Typhoid fever followed 1 operation in 2 weeks; patient recovered.

Return of malignant disease in 2 cases.

Cancer of cervix subsequently occurred in 1 case.

Menstruation returned in 6 months following double ovariectomy in 1 case.

Bright's disease proved fatal 3 months after operation in 1 case.

Intestinal obstruction from adhesion to pedicle caused death 4 weeks after operation in 1 case.

CAUSE OF DEATH.

Of the 72 fatal cases, the cause of death is reported in 42 as follows: Septicæmia, 8; shock, 6; hæmorrhage, 6; peritonitis, 4; exhaustion, 4; tetanus, 2; intestinal obstruction, 2; capillary bronchitis, 1; heart failure, 1; paralysis of diaphragm, 1; obscure liver trouble, 1; ether narcosis, 1; gangrene of intestines, 1; gangrene of omentum, 1; nephritis, 1; vomiting (?), 1; acute enteritis, 1.

LAPAROTOMIES FOR REMOVAL OF OVARIES NOT THE SEAT OF TUMOR.				
AGE.				
Between 17 and 25 years.....	108	Salpingitis (single or double not stated)..... 36 cases.		
" 26 " 35 " 	214	Single hydrosalpinx..... 10 "		
" 36 " 40 " 	47	Double " 12 "		
" 41 " 50 " 	21	Hydrosalpinx (single or double not stated).. 2 "		
Age not stated in.....	9	Single hematosalpinx..... 6 "		
SOCIAL CONDITION.				
Single (of these, 7 had borne children)....	117	" pyosalpinx..... 29 "		
Married.....	248	Double " 49 "		
Widows.....	14	Pyosalpinx (single or double not stated).... 18 "		
Social condition not stated in.....	20	Occlusion of single tube..... 4 "		
NUMBER OF CHILDREN.				
Single women who had borne no children.....	56	" " both tubes..... 16 "		
Married " " " " " " 	70	Suppurating tubo-ovarian cyst..... 2 "		
Women " " " 1 child.....	59	Congenital defect of ovaries..... 2 "		
" " " " 2 children.....	36	Retro-position of uterus..... 13 "		
" " " " 3 " 	20	Uterine fibroma..... 51 "		
" " " " more than 3 child- ren.....	18	Cicatricial closure of vagina..... 1 "		
Number of children not stated in.....	140	Imperforate vagina..... 1 "		
PATHOLOGICAL CONDITIONS AND SYMPTOMS.				
Pathological condition alone is stated in.....	264	Tuberculosis of tubes..... 4 "		
Symptoms necessitating operation alone are stated in.....	25	Fibroma of tube..... 1 "		
Both pathological condition and symptoms are stated in.....	110	Partial intestinal obstruction..... 1 "		
PATHOLOGICAL CONDITIONS STATED.*				
Dislocation of a single ovary.....	13 cases.	COMPLICATIONS.		
" " both ovaries.....	23 "	Ascites.....	2 cases.	
" " " (one or both not stated).....	1 "	Localized peritonitis.....	15 "	
Single ovary adherent.....	9 "	General " 	5 "	
Both ovaries " 	23 "	Tubercular " 	2 "	
Atrophy of a single ovary.....	3 "	Pelvic abscess.....	10 "	
" " both ovaries.....	1 "	Pelvic hæmatocele.....	3 "	
Single ovaritis.....	10 "	" " suppurating.....	1 "	
Double " 	33 "	Chronic metritis.....	2 "	
Ovaritis (single or double not stated).....	43 "	Parovarian cyst.....	6 "	
Cirrhosis of a single ovary.....	8 "	Dermoid of ovary.....	1 "	
" " both ovaries.....	6 "	Varix of broad ligaments.....	3 "	
" " " (one or both not stated).....	2 "	Fistula from ovarian abscess.....	1 "	
One ovary cystic.....	12 "	Septicæmia.....	2 "	
Both ovaries cystic.....	56 "	SYMPTOMS STATED.		
Hæmatoma of a single ovary.....	12 "	Pain.....	80 cases.	
" " both ovaries.....	2 "	Dysmenorrhœa.....	20 "	
Abscess of a single ovary.....	27 "	Uterine hemorrhage.....	32 "	
" " both ovaries.....	10 "	Confirmed invalidism.....	23 "	
Fibromata on ovaries.....	2 "	Epilepsy.....	5 "	
Single salpingitis.....	11 "	Hystero-epilepsy.....	17 "	
Double " 	19 "	Hysteria.....	1 "	
* In many cases, of course, a number of pathological conditions and symptoms co-exist in the same case, and the details here set down doubtless constitute but a partial report of the cases tabulated, as these particulars were not specifically called for by the form.			Unilateral choreic movements..... 1 "	
			Mental aberration..... 6 "	
			Threatened insanity..... 3 "	
			Insanity..... 1 "	
			Nymphomania..... 2 "	
ADHESIONS.			NUMBER OF OVARIES REMOVED.	
			Single ovary removed in.....	78 cases.
			Both ovaries " " 	317 "
			Number not stated in.....	4 "
			ADHESIONS.	
			Adhesions existed in.....	232 cases.
			" were absent in.....	61 "
			" " not noted in.....	106 "
DRAINAGE.				
			Drained.....	135 cases.
			Not drained.....	234 "
			Drainage not noted.....	30 "

* In many cases, of course, a number of pathological conditions and symptoms co-exist in the same case, and the details here set down doubtless constitute but a partial report of the cases tabulated, as these particulars were not specifically called for by the form.

PLACE OF OPERATION.

Hospital	149 cases.
Private hospital.....	95 "
Private.....	123 "
Not noted	32 "

MORTALITY LIST.

Of these 399 cases, 28 died—a mortality of 7 per cent.

Shock	3 deaths.
Peritonitis	4 "
" (pre-existing).....	2 "
" septic.....	2 "
Hemorrhage.....	2 "
Rupture of secondary abscess	2 "
Tetanus.....	1 "
Carbolic acid poisoning.....	1 "
Heart failure.....	2 "
Uræmia	1 "
Double pneumonia.....	1 "
Exhaustion	1 "
Cause not given	6 "

EFFECT OF OPERATION UPON THE CONDITION REQUIRING IT.

Operations for removal of ovaries or tubes the subject of inflammatory disease.

Cure.....	136 cases.
Complete relief.....	4 "
Improved	28 "
Doubtful.....	1 "
No effect.....	1 "
Not stated	43 "
Total	213 "

Operations for removal of cystic ovaries.

Cure.....	3 cases.
Improved.....	2 "
Total.....	5 "

Operations for removal of cystic ovaries with accompanying symptoms.

Cure.....	5 cases.
Improved	6 "
Not stated.....	5 "
Total	16 cases.

Operations for removal of cystic tubes.

Cure.....	14 cases.
Improved	2 "
Not stated.....	2 "
Total.....	18 "

Operations for prolapse of ovaries with accompanying symptoms.

Improved.....	1 case.
Not stated.....	1 "
Total.....	2 "

Operations for congenital defect of ovary with dysmenorrhœa.

Cure.....	1 case.
Improved	1 "
Total.....	2 "

Operations for hæmatoma of ovaries.

Cure.....	3 cases.
Not stated.....	1 "
Total.....	4 "

Operation for hæmatosalpinx.

Cure.....	1 case.
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Operations for adherent ovaries and tubes.

Cure.....	3 cases.
Complete relief.....	1 "
Temporary relief.....	1 "
Not stated	3 "
Total	8 "

Operations for tuberculosis of ovaries or tubes.

Cure.....	1 case.
Improved.....	1 "
Not stated	3 "
Total.....	5 "

Operations for supposed tubal pregnancy.

Cure.....	2 cases.
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Operations for hemorrhagic or painful uterine fibromata.

Cure.....	16 cases.
Improved.....	10 "
No effect.....	3 "
Not stated.....	13 "
Total.....	42 "

Operations for retro-position of uterus with ovarian prolapse.

Cure.....	4 cases.
Improved	1 "
No effect.....	1 "
Not stated.....	2 "
Total.....	8 "

Operation for chronic metritis and sub-involution.

Cure.....	1 case.
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Operations for pelvic peritonitis.

Cure.....	2 cases.
Improved.....	2 "
Total.....	4 "

Operations for imperforate vagina.

Cure.....	1 case.
Not stated.....	1 "
Total.....	2 "

Operations for excessive uterine hemorrhage.

Cure.....	2 cases.
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Operations for dysmenorrhœa.

Cure.....	2 cases.
Complete relief.....	1 "
Not stated.....	2 "
Total.....	5 "

<i>Operations for ovarian neuralgia.</i>	
Cure.....	1 case.
Improved.....	1 "
Temporary improvement.....	1 "
Not stated.....	1 "
Total.....	4 "
<i>Operations for dysmenorrhœa with convulsions.</i>	
Cure.....	1 case.
Improved.....	3 "
No effect.....	1 "
Total.....	5 "
<i>Operations for menstrual epilepsy.</i>	
Improved.....	1 case.
No effect.....	1 "
Not stated.....	1 "
Total.....	3 "
<i>Operations for hystero-epilepsy.</i>	
Cure.....	5 cases.
Improved.....	4 "
Total.....	9 "
<i>Operations for dysmenorrhœa with mental disturbance.</i>	
Cure.....	1 case.
Improved.....	1 "
Not stated.....	1 "
Total.....	3 "
<i>Operations for ovarian insanity.</i>	
Encouraging.....	1 case.
Temporary.....	1 "
Total.....	2 "
<i>Operation for menstrual insanity.</i>	
Cure.....	1 case.
<i>Operation for threatened insanity.</i>	
Improved.....	2 cases.
<i>Operation for nymphomania.</i>	
Cure.....	1 case.
<i>Operation for chronic invalidism with pelvic pain.</i>	
Improved.....	1 case.

REMARKS.

One ovary too adherent to remove in 6 cases.
 Gonorrhœal history was noted in 10 cases.
 Infantile uterus found in 2 cases.
 Puerperal condition antecedent in 4 cases.
 Opium habit in 3 cases.
 Menstruation continued after removal of both ovaries and tubes in 8 cases.
 Hysterorrhaphy also was done in 3 cases.

LAPAROTOMIES FOR OTHER PURPOSES THAN REMOVAL OF OVARIES.

CLASSIFICATION.	NO. CASES.
1 Exploratory incisions.....	84
2 Incisions for evacuation of fluids from the peritoneal cavity with or without drainage.....	51
3 Sections for evacuation of abscesses.....	36
4 Sections for evacuations of blood-collections....	7
5 Sections for evacuation of cysts.....	7
6 Sections for release of adhesions.....	13

	NO. CASES.
7 Sections for relief of intestinal obstruction.....	32
8 Gastrostomy.....	1
9 Sections for partial or entire removal of tumors other than ovarian.....	30
10 Sections for extra-uterine foetation.....	21
11 Hysterectomy.....	50
12 Nephrectomy.....	8
13 Splenectomy.....	3
14 Sections for traumatism.....	33
15 Sections for intestinal perforation from disease	10
16 Cholecystotomy.....	5
17 Sections for radical cure of hernia not strangulated.....	14
18 Sections for radical cure of strangulated hernia	4
19 Cæsarean section.....	5
20 Porro's operation.....	1
21 Gastrostomy.....	3
22 Gastro-enterostomy.....	1
23 Pylorectomy.....	1
24 Section for digital dilatation of pylorus.....	1
25 Section for closure of fecal fistula.....	2
26 Hysterorrhaphy.....	2
27 Section for tapping blood from liver.....	1
28 Section for reducing inversion of uterus.....	1
29 Section for removal of diseased Fallopian tube	2
30 Section for enterorrhaphy for gangrenous hernia	3

The exploratory incisions were for the following causes:

Ovaries and tubes the subject of inflammatory disease and too adherent for removal.....	9 cases.
Intestinal adhesions.....	3 "
Retroverted uterus with inseparable adhesions.....	1 "
Hæmatocele with pelvis bound uterus.....	1 "
Chronic peritonitis.....	2 "
Hepatitis.....	1 "
Cancer of liver.....	3 "
" " stomach.....	1 "
" " kidney.....	1 "
" " large intestine.....	1 "
" " omentum.....	2 "
" " mesentery.....	1 "
" " peritoneum.....	3 "
" " ovary, surrounding rectum.....	1 "
Cancer, general abdominal.....	3 "
Sarcoma of liver.....	2 "
" " kidney.....	3 "
" " omentum.....	1 "
" " ovary (adherent).....	1 "
" " uterus.....	1 "
Sarcoma—retroperitoneal.....	2 "
" —general abdominal.....	2 "
Papilloma of uterus and ovary.....	3 "
" " peritoneum.....	1 "
Fibroma of uterus, adherent.....	9 "
Fibro-cyst of uterus, adherent.....	2 "

Fibroid polypus of uterus.....	1 case.
Suspected tumor.....	2 "
Benign tumor of mesentery.....	1 "
Tumor of omentum (character unknown).....	1 "
" uterus " " ".....	1 "
" intestines " " ".....	1 "
" spleen " " ".....	1 "
" ovary (adherent) " ".....	1 "
" liver " " ".....	1 "
" abdominal " " ".....	5 "
" in hepatic region " ".....	1 "
Ascites from malignant disease.....	1 "
" " unknown cause.....	2 "
Enlarged liver and gall-stones.....	1 "
Perforating gall-stones (irremovable).....	1 "
Ovarian pain (cause not found).....	1 "
Deformity of pelvis (abscess suspected).....	1 "
Intra-uterine pregnancy (extra-uterine suspected).....	1 "

The sections for evacuation of fluid from peritoneum were for the following conditions:

Tubercular peritonitis.....	20 cases.
Purulent ".....	19 "
" " (puerperal).....	2 "
Septic ".....	3 "
Ascites from cancer.....	1 "
" " diseased liver.....	2 "
Distension by fluid from bursted ovarian myxoma.....	2 "
Distension by fluid from bursted ovarian papilloma.....	1 "
Distension by chylous fluid.....	1 "

The sections for evacuation of abscesses were for the following: 25 pelvic; 5 perityphlitic; 3 encapsulated intra-peritoneal; 1 hepatic; 1 peri-vesical; 1 in Fallopian tube, drained.

The sections for evacuation of blood collections were: 5 for intra-peritoneal hæmatocele; 1 for hæmatoma of broad ligament; 1 for irremovable hæmatosalpinx.

The sections for evacuation of cysts were as follows: 2 irremovable ovarian cysts; 2 mesenteric cysts; 1 retro-splenic cyst; 1 renal cyst; 1 cyst of urachus.

The sections for relief of intestinal obstruction were: 8 for constricting bands; 8 for intestinal adhesions; 5 for malignant growths; 2 for intus-susception; 1 for volvulus; 1 for stricture of intestine; 2 for external strangulated hernia; 2, in which cause was not found; 3 for causes not stated.

Of the sections for entire or partial removal of tumors, 12 were for uterine fibroids; 4 for uterine fibro-cysts; 2 for cancer of intestines; 1 for cancer of omentum; 1 for cancer of pelvis; 1 for sarcoma of spleen; 1 for retro-peritoneal sarcoma; 1 for sarcoma (location not stated); 1 for cysto-sarcoma of uterus; 1 for papilloma of broad ligament; 2 for desmoid of abdominal wall; 1 for chondroma of lower ribs; 1 for retro-peritoneal tumor, and 1 for abdominal tumor, nature unknown.

Of the *nephrectomies*, 5 were for suppurative disease; 1 for cancer; 1 for hemorrhage from shot wound, and 1 for displacement.

Of the *splenectomies*, 2 were for leukaemia; 1 for enlargement, induration and displacement.

Of the sections for *traumatism*, 19 were for shot wounds; 12 for stab wounds; 2 for kicks.

Of the *Cæsarean sections*, 3 were for contracted pelvis; 2 for cancer of outlet.

Of the *gastrostomies*, 2 were for inflammatory, and 1 for cancerous stricture of œsophagus.

The *gastro-enterostomy* and the *pylorotomy* were both for cancer.

RESULTS.

	Cured.....	Improved.....	No effect.....	Effect on Condition Not Stated.....	Died.....	Total.....
Exploratory incisions.....	2	16	53	1	12	84
Section for tubercular peritonitis.....	4	9	2	3	1	20
" purulent ".....	6	.....	.....	1	12	19
" puerperal ".....	.....	.....	.....	.....	2	2
" septic ".....	1	.....	.....	.....	2	3
" evacuation of ascitic fluid.....	1	3	.....	1	1	6
" " chylous fluid.....	1	.....	.....	.....	.....	1
" " abscess.....	24	4	3	2	3	36
" " blood collections.....	3	.....	.....	1	3	7
Section for evacuation of cysts.....	3	1	.....	.....	3	7
" release of adhesions.....	5	5	1	2	.....	13
" relief of intestinal obstruction.....	13	2	1	.....	16	32
Section for gastrostomy.....	1	.....	.....	.....	.....	1
" gastrostomy.....	3	.....	.....	.....	.....	3
" entire or partial removal of tumors.....	12	5	.....	1	12	30
Section for extra-uterine foetation.....	14	.....	.....	.....	7	21
Hysterectomy.....	29	.....	.....	.....	21	50
Nephrectomy.....	3	.....	.....	.....	5	8
Splenectomy.....	1	.....	.....	.....	2	3
Sections for shot wounds of intestines.....	4	.....	.....	.....	9	13
" " liver.....	2	.....	.....	.....	.....	2
" " " and kidney.....	.....	.....	.....	.....	1	1
Sections for shot wounds of stomach.....	.....	.....	.....	.....	1	1
" " (no viscera injured).....	.....	.....	.....	.....	1	1
Sections for gun shot wounds (undescribed).....	.....	.....	.....	.....	1	1
Sections for stab of intestines.....	2	.....	.....	.....	2	4
" " liver.....	.....	.....	.....	.....	2	2
" " stomach.....	.....	.....	.....	.....	1	1
" " omentum.....	1	.....	.....	.....	.....	1
" " without injury to viscera.....	3	.....	.....	.....	1	4
Sections for kicks, with rupture of viscera.....	.....	.....	.....	.....	2	2
Sections for intestinal perforation from disease.....	3	1	.....	.....	6	10
Cholecystotomy.....	5	.....	.....	.....	.....	5
Sections for radical cure of hernia not strangulated.....	11	1	.....	2	.....	14
Sections for radical cure of hernia strangulated.....	2	.....	.....	1	1	4
Cæsarean sections.....	3	.....	.....	.....	2	5
Porro operation.....	.....	.....	.....	.....	1	1
Gastro-enterostomy.....	.....	.....	.....	.....	1	1
Pylorotomy.....	.....	.....	.....	.....	1	1
Loreta's operation.....	.....	.....	.....	.....	1	1
Section for closure of fecal fistula.....	1	.....	.....	.....	.....	2
Hysterorrhaphy.....	2	.....	.....	.....	.....	2
Section for tapping blood from liver.....	1	.....	.....	.....	.....	1
" replacement of inverted uterus.....	1	.....	.....	.....	.....	1
Sections for removal of Fallopian tube.....	2	.....	.....	.....	.....	2
" enterorrhaphy for gangrenous hernia.....	1	.....	.....	.....	2	3
Total.....	165	53	60	15	139	432

OPERATORS:

	NO. CASES REPORTED.		NO. CASES REPORTED.
Dr. Washington Akin.....	1	Dr. Matthew D. Mann.....	76
" T. A. Ashby.....	3	" A. S. von Mansfelde.....	2
" W. F. Atlee.....	7	" Henry O. Marcy.....	4
" J. M. Baldy.....	7	" R. B. Maury.....	8
" J. M. Barton.....	12	" T. J. Maxwell.....	5
" Robert Battey.....	2	" E. E. Montgomery.....	30
" E. J. Beall.....	3	" Robert T. Morris.....	3
" Henry Beates, Jr.....	6	" Paul F. Munde.....	67
" D. C. Beebe.....	1	" J. B. Murphy.....	4
" A. C. Bernays.....	21	" P. J. Murphy.....	14
" R. B. Bontecou.....	4	" H. S. Myers.....	1
" J. D. Bryant.....	1	" W. H. Myers.....	8
" J. J. Buchanan.....	3	" James McCann.....	8
" N. B. Carson.....	7	" L. S. McMurtry.....	14
" D. W. Cheever.....	3	" L. E. Neale.....	4
" E. A. Christian.....	1	" J. G. Orton.....	1
" M. F. Coomes.....	1	" F. K. Owen.....	1
" N. P. Dandridge.....	1	" John H. Packard.....	5
" C. G. Darling.....	1	" Roewell Park.....	11
" Joseph Eastman.....	60	" Chas. B. Penrose.....	38
" J. W. Elliot.....	21	" George W. Porter.....	29
" William Goodell.....	29	" Joseph Price.....	140
" S. W. Gross.....	4	" M. Price.....	27
" Virgil O. Hardon.....	5	" A. S. Priddy.....	1
" Neal Hardy.....	2	" David Prince.....	7
" F. L. Haynes.....	5	" John C. Reeve.....	6
" J. W. Heddens.....	3	" M. H. Richardson.....	10
" Hampton E. Hill.....	14	" B. T. Shimwell.....	2
" H. O. Hitchcock.....	10	" H. A. Slocum.....	4
" John Homans.....	83	" A. B. Strong.....	8
" Edward J. Ill.....	27	" J. E. Summers.....	6
" A. Reeves Jackson.....	18	" R. S. Sutton.....	34
" C. A. Jersey.....	2	" L. McLane Tiffany.....	14
" Joseph Taber Johnson.....	34	" Ap Morgan Vance.....	8
" A. W. Johnstone.....	9	" A. Vander Veer.....	22
" Mary A. Dixon-Jones.....	12	" E. A. Waggener.....	3
" Howard A. Kelly.....	66	" J. R. Weist.....	7
" R. A. Kinloch.....	5	" X. O. Werder.....	4
" Daniel Longaker.....	7	" William C. Wile.....	6
" Wm. T. Lusk.....	41	" Elwood Wilson.....	1
" Thomas H. Manley.....	2	" W. Gill Wylie.....	135

Total number of Operators..... 82
 Total number of cases..... 1,322