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ABDOMINAL SURGERY AT THE KENSINGTON
HOSPITAL FOR WOMEN.

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[Read April 8, 1891.]

THE following report embraces all cases of abdominal section done in the Kensington Hospital for Women during my connection with it. Cases of hernia, forming a special class, are excluded. The number of operations is eighty-five, being the work of three operators—Drs. Kelly, Robb, and myself. As it is manifestly impossible to report these cases in detail, they will be given in groups, with comments on the nature of each class. And, to add to the practical value of the report, I will give the lessons I have learned and the impression I have formed from the study of these cases.

SELECTION OF CASES FOR OPERATION.—Certain definite principles have been followed in the selection of cases for operation. Operation has been recommended in all cases of ovarian and parovarian tumors, ovarian abscess, pyosalpinx, hæmato-salpinx, and of hydro-salpinx unless organic disease of the vital organs clearly forbade it; also in cases of fibroid tumor of the uterus in which hemorrhage or pressure symptoms demanded it; also in cases of extrauterine pregnancy, both before and after rupture; also in certain cases of simple salpingitis and ovaritis in which well-directed treatment, long continued, failed of relief, and in which life was made burdensome by the continuance of the disease. Operation has been refused only in cases of serious kidney disease or of advanced cancer.

TREATMENT OF PATIENT BEFORE OPERATION.—Whenever practicable, for a week prior to operation patients have been put upon simple food, the bowels gently purged, and the skin made clean and active by warm baths given daily or on alternate days. This regimen is considered especially important for cachectic women with sluggish



emunctories. When time is precious a purge is given, and a thorough bath. As my experience grows, I become more convinced of the advantage of preparatory treatment extending over weeks or months in chronic broken-down cases. The nutrition of such cases should be improved in every way; and the state of their emunctories be carefully studied.

In acute cases, if operation is to be done, all delay is pernicious. Before operation the abdomen is scrubbed with soap and water, alcohol, and sublimate solution 1:1000.

PREPARATION FOR OPERATION.—I believe that the essentials for success in abdominal operations are asepsis, rapid, careful, and thorough operating, thorough irrigation in septic cases, and drainage.

To secure asepsis an elaborate technique is faithfully followed. The doctrine that infection comes by contact is fully believed; hence everything coming in contact with the patient is rendered aseptic.

TREATMENT OF THE HANDS AND ARMS.—The hands and arms of the surgeon and assistants are washed carefully through three waters, a good lather being made with soap, and the nail-brush vigorously applied; especial attention is given to the subungual spaces. Ten minutes are consumed in the process. The hands are then immersed in a saturated solution of permanganate of potassium, next in a saturated solution of oxalic acid to remove the permanganate, and, finally, in a 1:1000 solution of corrosive sublimate, in which they remain three minutes. Whenever the skin about the fingers is chapped, or the hands have been recently exposed to septic material, the fingers are soaked in peroxide of hydrogen solution before the sublimate bath is used.

DRESSINGS.—*Gauze* is prepared by tearing cheese-cloth in squares of one yard, which are boiled in a solution of carbonate of sodium two drachms to water one gallon, for twenty minutes; then washed through pure boiled water four times; wrung out and soaked in sublimate solution 1:500 for one hour; then preserved in alcohol. Before use it is washed in sterilized water.

Silk is prepared by winding Chinese silk on spools; boiling it for twenty minutes; soaking it for three hours in sublimate solution 1:1000; and preserving it in 4 per cent. carbolyzed alcohol. Before each operation it is boiled fifteen minutes. In the future I propose to sterilize it in the steam sterilizer.

Catgut is prepared by heating it in the hot-air sterilizer for four hours, gradually increasing the heat to 280° F. The last half-hour

the heat varies from 250° F. to 280° F. It is then preserved in carbolized alcohol 4 per cent.

Sponges are prepared by—beating to get rid of dust; soaking in hydrochloric acid one drachm to water one pint for from twelve to twenty-four hours; washing through twelve to sixteen waters, until the water ceases to look yellow; soaking in sublimate solution 1:1000 for twelve hours; when they are transferred to carbolic acid solution, 4 per cent., for preservation. Varying qualities of sponges are used, from the reef sponge to the potter's sponge, the cost varying from one to fifty cents each. The coarse sponges are bleached by "White's method" before they are washed. Before using them, sponges are washed in boiled water, and are used but once. By exercising some care the average cost for sponges for each operation will not exceed fifteen cents. In comparison with the assurance of always having aseptic sponges this is nothing.

Instruments are kept aseptic. Before each operation they are sterilized in an Arnold's steam sterilizer for an hour. Formerly a Rohrbeck's dry hot-air oven was used, temperature 250° F. to 300° F., for two hours. This heat spoils the temper of steel instruments. After a clean operation the instruments are thoroughly washed and scalded, special attention being paid to the French joints and irregularities. After a septic operation the instruments are sterilized, after washing, for one hour, then dried and put away.

Basins and *trays* before operation are thoroughly washed with soap and water, scalded, and washed with sublimate solution. They are then filled with boiling water. After operation the same process is repeated, and after septic operations they soak over night in sublimate solution.

Towels used about the patient have been preserved in 4 per cent. carbolic acid solution, or have been freshly sterilized with steam.

THE NURSE.—The nurse for the operation is kept away from septic cases, should such be in the hospital. She has a bath and a fresh suit before entering the room.

THE OPERATING-ROOM.—Formerly, when the hospital had no operating-room, the room selected was scrubbed and aired for twenty-four hours. Then the woodwork was wiped with sublimate solution 1:1000. All tables were likewise wiped with sublimate solution. Now, with a model operating-room, having tiled floor and walls, abundant light and special ventilation, the walls are wiped, and the floor scrubbed and flushed with water, which runs into an *open* roof-spout; thus obviating a sewer connection. After foul operations

sublimate solution will be used. Every facility for obtaining and maintaining cleanliness and asepsis is afforded by the apparatus in the room. Wash-basins with an abundance of running water for washing the hands, and instruments and basins, are very convenient. The room, when in use, is protected against sewer-gas by the best modern plumbing used throughout the building; while the waste-pipe leading from the operating-room is doubly ventilated. Further protection is afforded by the modern traps. Between operating days the waste-pipe from the operating-room is shut off from the sewer by an air-tight valve. Thus a maximum protection is afforded against septic hands, instruments and appliances, with a minimum danger of atmospheric pollution. Clean water is obtained by the use of the Pasteur filter; and this is sterilized in a jacketed kettle heated by steam from the boiler. In this way an abundance of sterilized water is assured.

The room is warmed with steam by the system of indirect radiation, and is ventilated by a warm ventilating flue. The temperature is kept at 75° F.

OPERATION. Anæsthetic.—Ether was used formerly for all cases. Various bad results have made me believe that chloroform is a better anæsthetic for the abdominal surgeon. At the present time I do not use ether in old women, nor when bronchitis, nephritis, or organic heart disease exists. I have found cachectic subjects, "wrecks," and fat women to take ether badly. The anæsthetic is given late, so that the operator waits for the patient rather than the patient for the operator. I believe anæsthesia in itself to be dangerous, and that the danger increases with the duration of the anæsthesia. The Allis inhaler is used for ether; the Esmarch inhaler for chloroform. From ether I have had "collapse" once; pneumonia once; bronchitis twice; uræmia and death twice. From chloroform, "collapse" once; uræmia and death once.

Technique of Operation.—The technique employed is not peculiar. I believe in rapid, careful, and thorough work. This is shown by the fact that only two exploratory operations are found in the list.

No chemical antiseptics are used during operation. The instruments and sponges are kept in sterilized water.

Toilet of Peritoneum.—In non-septic cases, such as simple ovarian tumors, the peritoneum is simply sponged dry before closing the wound. In these cases the aseptic technique employed completely fills every scientific requirement. No sepsis is in the peritoneum before operation; none is introduced during operation; hence none is present after operation.

In septic operations, including pus accumulations, hæmato- and hydro-salpinx, more or less irrigation is used. If the presence of sepsis be doubtful, as, for instance, from the escape of some fluid from a hydro-salpinx, water is poured into the pelvis, and it is sponged dry. If septic matter has escaped into the pelvis in small amount, the pelvis is irrigated with sterilized water by means of the Davidson syringe—care being taken to protect the general peritoneal cavity. When large amounts of septic material are to be removed, I use the “flusher” and irrigate the entire peritoneum with gallons of water. This process requires time, and entails shock. I do not like it altogether, yet know of no substitute. In septic cases the scientific requirements are not met by an aseptic technique. The flusher may disseminate the septic matter throughout the peritoneal cavity. Moreover, when plain sterilized water is used, septic foci in the belly are not disinfected. Yet, practically, the results obtained in such cases by asepsis with free irrigation and drainage are much better than by the use of chemical solutions to disinfect the peritoneal cavity. Hence, until some disinfectant is discovered which will kill germs without irritating the peritoneum, the present plan must be adhered to. I only use sublimate solution in the belly to disinfect a limited area, such as a pedicle. It should be used on a sponge sparingly. The peroxide of hydrogen may prove useful for this purpose.

Ligatures and Sutures.—In abdominal surgery aseptic silk is the best material for ligatures and sutures.

Drainage.—Drainage is necessary for safety in all cases having dense adhesions; and I believe it is always of advantage. I use it in almost every case. When the drainage-tube is properly cared for, I believe that there is no objection which can be urged against it. The plea that it favors hernia is apparently an objection; but it only favors hernia when left in a long time, and it is only left in a long time in cases in which there is excessive drainage; cases which would frequently die without it. Such women should be glad to have a hernia—it is hernia or death. Of the 85 cases reported, 77 were drained, and 8 were not drained.

Dressing.—After the incision is sutured the abdominal wall is washed with sublimate solution, and a wet sublimate gauze dressing is applied. A layer of cotton is applied over this; and the whole is held in position by a Scultetus bandage. The drainage-tube is buried in the cotton, and the bandage is applied over all. Rubber-dam is used about the tube only in cases in which an excessive flow is expected.

During the operation the patient's legs are wrapped in a blanket, and her underclothing is protected by covering with towels. The use of the Kelly pad to drain away all fluid is, also, of the greatest assistance in keeping the clothing dry. After operation the patient is put in a bed which has been warmed with hot-water cans. The cans remain; care being taken to avoid burning the patient.

SHOCK AND COLLAPSE.—One patient has "collapsed" from ether, and one from chloroform. There was distinct paralysis of respiration in each case. The collapse from chloroform was the more profound. The lower end of the table was elevated immediately; the chin drawn forward; artificial respiration by Sylvester's method kept up; and hypodermics of strychnia solution and tincture of digitalis given. In the chloroform case, in addition, ether and brandy were given hypodermically, and the faradic current was used over the phrenic nerve. These methods were used in the order in which I estimate their value. I may say that drawing the chin forward is not Howard's method. It has been used in Baltimore for many years, and was in constant use from 1882 to 1884. For shock on the operating-table strychnia and digitalis have been used; at times whiskey. Careful anæsthesia and quick operation are the best preventives.

AFTER-TREATMENT.—In the majority of cases this is simple. Nothing is given for twenty-four hours. One drachm of water every half-hour is given the second day. Two to four times this amount is given the third day, with milk and lime-water of each one drachm, or two drachms of beef-tea, every half-hour. These amounts are rapidly increased, and the frequency of administration decreased. On the sixth day liquid diet practically *ad libitum* is given, and about the eighth day soft diet. The bowels are moved early, especially if there is much pain or any fever. Most pain after section comes from flatus. The bowels are moved, preferably by enema, or by calomel in broken doses, or by citrate of magnesia solution. As an enema the following is employed:

R.—Magnesii sulph.	. . . . .	℥ij.
Glycerini	. . . . .	℥i.
Ol. terebinth.	. . . . .	℥ss.
Aquæ	. . . . .	q. s. ad ℥iv.—M.

This is a very satisfactory formula.

The tube is attended to by myself. It is drained two or three times in twenty-four hours; oftener if the drainage is excessive, or if

bleeding is going on. Sterilized cotton is seized by the tube-forceps and passed down the tube. In this way all fluid is removed. Then a rope of gauze is passed down the tube, and the cotton and bandage reapplied. Each time before cleaning the tube the hands are scrubbed, and if septic cases are being handled, a sublimate bath is used.

The tube is removed early; usually on the second day. It is removed as soon as the drainage is straw-colored and does not run up the gauze into the cotton. After removing it the provisional stitch, which has been placed during the operation, is tied. The wound is now dusted with a powder containing one part of iodoform to seven of boric acid. Fresh gauze and clean cotton are now applied, and, in general, the wound is not looked at again until the seventh or eighth day, when the deep sutures are taken out and adhesive straps put on. This method of dressing I find perfectly satisfactory. I have had but one stitch-hole abscess in over a year.

The *catheter* is not used if it is possible to avoid it. When necessary, a glass catheter is employed. This is taken from sublimate solution; the vestibule is dried with cotton; the catheter properly smeared with vaseline, is inserted; after use it is thoroughly cleaned and put back in sublimate solution. Catheter cystitis is rare.

Patients are kept on their backs for two weeks. The bed-rest is used after ten days. After two or three weeks they are allowed to get up, and are discharged, in general, after four weeks. I think it is best to keep section cases in bed three weeks. Fat women should lie fully three weeks; they are most liable to have hernia.

TREATMENT OF COMPLICATED CASES.—Shock is met by the use of strychnia and digitalis given hypodermically; external heat and hot coffee, or hot beef-tea and whiskey given by enema. I do not like to give more than thirty minims of tincture of digitalis, nor one-eighth of a grain of sulphate of strychnia, within six hours. If shock gives way to asthenia, strychnia and digitalis are continued. In twenty-four hours one drachm of tincture of digitalis, and from $\frac{1}{4}$ to $\frac{1}{2}$ of a grain of strychnia, are given. For stimulation, enemata of beef-tea one pint, whiskey two ounces, are used. For rectal alimentation, the following combination is used:

One egg.	
Milk	℥viii.
Peptonize, and add whiskey	℥j-℥ij.

This is given every six hours.

I have not found rectal injections to relieve thirst.

When fever occurs, every effort is made to move the bowels.

An enema, calomel, or magnesia citrate solution is used. I have found the stomachs of those needing purgation too irritable to retain Epsom salts or Seidlitz powders.

Morphia or opium is used scarcely at all. Cases that do well do not need it. A little encouragement enables them to bear the pain for twenty-four hours, after which time it usually is not severe. In very excitable women, and in cases where pain has kept up for several days, morphia has been given sparingly. Whether this plan is the best in patients that are suffering severely I am not entirely convinced, nor that it is best to withhold morphia in all cases, but have yielded to the current of modern practice. I intend to try phenacetin, antipyrine, chloral, and the bromides for sleeplessness, in cases in which the condition of the pulse does not contra-indicate depressants.

Patients requiring stimulation usually have an irritable stomach; hence whiskey is given by enema, or champagne by the mouth.

Less can be done by alimentation and medication after abdominal section than after other operations, to combat asthenia; because the stomach is not available, as a rule. The fate of the patient is decided, in general, when the operation is completed.

ANALYSIS OF CASES.—Of the 85 cases operated on, there were of

Pyosalpinx	{ single 5 } { double 6 }	. . . . .	11
Chronic salpingitis and ovaritis	. . . . .	. . . . .	18
(Of these, 10 were densely adherent.)			
Cirrhotic ovaries	. . . . .	. . . . .	5
Tubercular peritonitis; cancer of ovaries (same patient operated on five times)	. . . . .	. . . . .	5
Parovarian cysts	. . . . .	. . . . .	2
Ovarian cysts	. . . . .	. . . . .	14
Tubal pregnancy	{ unruptured 2 } { ruptured 2 }	. . . . .	4
Retroflexion—hysterorrhaphy	. . . . .	. . . . .	4
Hydro-salpinx	. . . . .	. . . . .	4
Fibroid of uterus (1 myomectomy, with removal of one appendage; 3 removals of uterine appendages; 1 removal of one appendage)	. . . . .	. . . . .	5
Cæsarean section	. . . . .	. . . . .	1
Bowel adhesions	. . . . .	. . . . .	1
Mixed cases.			
Ovarian tumors complicated by	{ salpingitis 4 } { pyosalpinx 4 } { hydro-salpinx 1 } { hæmato-salpinx 2 }	. . . . .	11
Total	. . . . .	. . . . .	85

Of these abdominal sections, 18 were done by Dr. Kelly, 7 by Dr. Robb, and 60 by myself. There have been 7 deaths, in my own cases.

Both uterine appendages were removed in 60 cases for ovarian tumors, or the various forms of salpingitis or tubal pregnancy.

One uterine appendage was removed in 13 cases—or really in 12 cases, for in one the other tube and ovary was removed subsequently. This poor woman figures as 5 cases of tubercular peritonitis and cancer of the ovaries. She will be mentioned later. Of the women who had but one appendage removed one has had a baby, and a second is pregnant. The first was operated on *in extremis* for a huge pyosalpinx and abscess of the ovary; the other had a myomectomy and removal of one lightly adherent appendage.

In 4 cases hysterorrhaphy was done.

In 1 case the operation was to separate bowel adhesions resulting from a previous section.

There was 1 case of Cæsarean section; a thoroughly unique case, which will be reported in full to the College of Physicians.

There were two exploratory incisions. The first was made to determine the nature of an exudate forming after the removal of the appendages for fibroid of the uterus. It proved to be a cellulitis of the broad ligament, caused by an infected pedicle. This case and two similar cases suggest to me that many of the so-called hæmatomas reported by Mr. Tait are cases of infected pedicle. The other exploratory incision was an incomplete operation, in the sense that I started to remove a fibroid tumor, but, finding an anomaly of the bladder, I desisted. The bladder was developed to within one inch of the umbilicus, and there was an absence of the vesico-abdominal pouch of the peritoneum; that is, the peritoneum simply covered the posterior wall of the bladder. As the bladder was three inches wide at its upper limit, it would have been necessary to make a lateral incision along the outer border of the rectus muscle. To do a hysterectomy under such circumstances I felt to be unwise.

Two operations were incomplete. The operation was made for the removal of both appendages. In the first case there was a chronic salpingitis on the right side, and a pyosalpinx and intra-peritoneal abscess on the left side. The right appendage and the left tube (pyosalpinx) were removed. The left ovary was imbedded in exudate, and could not be felt. This patient is now the picture of blooming health, has gained thirty-five pounds, and menstruates regularly without pain.

The other case was one of defective development of the sexual organs; having, in addition, hydro- and hæmato-salpinx. On operation the left ovary was not removed, because it was apparently imbedded in the broad ligament near the pelvic wall. To have removed it would have required violence to tear it from its bed. As the operation had been prolonged, I did not think it wise to take the time necessary to control free bleeding from a ruptured ovarian artery. The woman has not menstruated—which fact shows the functional condition of the ovary.

One broad-ligament cyst was removed from a woman who some years before had had the appendages removed for pyosalpinx. The exciting cause of the cyst was an infected pedicle.

Two cases were simple sections for the evacuation of fluid in a case of tubercular peritonitis with cancer of the ovaries.

The case last referred to deserves special notice. She had had both breasts removed and axillas cleared out some years ago for cancer. Five operations were performed for the primary and secondary growths. While my patient, there were a number of nodules about the thorax, which were quiescent. She had six abdominal sections; one before the time covered by this report. Four times the fluid was removed, and twice in addition one uterine appendage was removed. After each operation she filled less rapidly than before. The peritoneum was everywhere studded with miliary bodies, supposed to be tubercles. The appendages were supposed to be tubercular, but microscopic examination demonstrated carcinoma. She died eleven days after the last section. The autopsy showed cancer of the stomach, duodenum, and liver. It was noticed at the last section that the tubercular peritonitis was undergoing a cure. The tubercles had disappeared, leaving the peritoneum thick and opaque. At the autopsy it was noted that the tubercles had disappeared in the pelvis and lower abdomen, but that in the upper abdomen they were still abundant.

This fact suggests the query as to whether there is a relation between tubercle and cancer in the abdomen; and, again, were the miliary bodies really tubercular? Vomiting had been constant for nearly two months before the last operation. No pain was complained of, and the vomit was not bloody. It was attributed to the presence of the accumulating fluid. After operation the vomiting continued, everything being rejected. Death occurred from exhaustion on the eleventh day. This death is not included in the seven as a death from abdominal section, as the operation had nothing to do with it.

Deaths.—Three deaths occurred from suppression of urine. In one case albumin was found in the urine, and chloroform was given. Death after two days. This woman was a "wreck." She had adherent appendages and an intra-ligamentous ovarian tumor adherent to the right ureter. The ureter was dissected away from the tumor and dropped. Operation was difficult. Autopsy showed right surgical kidney and left contracted kidney; no peritonitis.

In the second case no albumin was found in the urine. Ether was given. Operation: Difficult enucleation of appendages imbedded in exudate. Death resulted on the fifth day from uræmia. Autopsy showed contracted kidneys; no peritonitis. This woman figured in the newspapers as having escaped from the hospital in her gown while delirious. In jumping from a low second-story window she fractured her olecranon, but otherwise I was unable to find any injury. She had been sick many years. The third case was a "wreck," having been an invalid several years. No albumin was found in the urine. Ether was given. An ovarian and a parovarian tumor were removed; rapid, simple operation. Death after three days from uræmia. Autopsy showed contracted kidneys; no peritonitis.

These cases taught me the necessity of having the urine examined microscopically—even repeatedly in the cases having arterio-capillary fibrosis. With the knowledge of the kidney disease I would not operate now on such cases as the first and second. Women with contracted kidneys will not stand difficult operations. In such a case as the third I would try in every way to improve nutrition and to assist the kidneys, and then operate under chloroform.

One death occurred on the third day from intestinal obstruction. At the autopsy it was found that an organic stricture of the colon existed, which had resulted from a long-standing adhesion of the colon to the broad ligament.

Two deaths occurred from peritonitis—one on the fifth day from septic peritonitis, after the removal of double hydro-salpinx. The drainage-tube was used, but it did not empty the pelvis. This death is the only one after operation in my experience in which death would not have occurred without operation.

The other occurred on the second day after the removal of double pyosalpinx and a right ovarian tumor. Free irrigation and drainage. Peritonitis developed the first day. The abdomen was again opened and flushed. Death within forty-eight hours. These are the only deaths which have occurred in my practice, except after the gravest

operations, or when the patients have been extremely prostrated by acute or chronic disease. Both of these women were feeble.

One death occurred thirty-six hours after operation for ruptured tubal pregnancy. The abdomen was full of blood. Fever shortly developed, and the patient died within thirty-six hours in hyperpyrexia. This death was attributed to sepsis, but I do not feel clear as to its cause. It was more probably due to acute anæmia.

RESULTS.—After all, the important question is, What good was accomplished by these operations? It is gratifying to be able to say that the results have been good. I do not know a single patient who is not distinctly better than before operation. Because of the fact that all these patients are not under my care at present it is not possible to give the exact percentage of those cured, improved, etc. Many become immediately and permanently cured after convalescence from the operation. More are improved after operation, and their cure is delayed six or more months. Some will never be well women, although the operation accomplished all that was expected. The menopause with its nervous manifestations annoys some patients, but in none have serious symptoms been found.

Finally, those patients became well quickly who were operated on early, before the general health and nutrition were impaired. The operation removed all disease. Depending upon the chronicity of the disease and the local complications, and upon the impairment of the general health, the restoration to health has been rapid or slow. The "wrecks" have improved, but none of them are robust women. The question of prompt, early operation for grave pelvic disease is now the most important one in gynecology, and results can only improve when the profession becomes convinced of this fact, and women are sent to the gynecologist while it is yet possible to cure them.¹

¹ The technique employed is based on that introduced by Dr. Kelly. I am under many obligations to him, and to Drs. Robb and Boyd, for advice and assistance.

No.	Name, and date of operation.	Age	Disease.	Operation.	Drainage	Result.	Operator.
1	Mrs. McG., June 8, 1889	30	Pyosalpinx.	Abdominal section; removal of uterine appendages.	1½ days	Recovered.	Dr. H. A. Kelly.
2	Mrs. H., June 24	27	Double pyosalpinx.	Removal of uterine appendages.	36 hours	Recovered.	Dr. H. Robb.
3	Mrs. S., July 5	18	Large cirrhotic ovaries.	Removal of uterine appendages.	10 hours	Recovered.	Dr. H. Robb.
4	Miss E., July 24	23	Double pyosalpinx.	Removal of uterine appendages.	2½ days	Recovered.	Dr. H. Robb.
5	Mrs. N., July 29	23	Salpingitis and ovaritis.	Removal of uterine appendages.	None	Recovered.	Dr. H. Robb.
6	Mrs. C., July 31	40	Tuberculous peritonitis.	Abdominal section.	12 hours	Recovered.	Dr. H. Robb.
7	Mrs. K., Aug. 5	30	Salpingitis and ovaritis.	Removal of uterine appendages.	12 hours	Recovered.	Dr. H. Robb.
8	Mrs. J., Aug. 14	31	Cirrhotic ovaries.	Removal of uterine appendages.	None	Recovered.	Dr. H. Robb.
9	Mrs. X., Aug. 19	36	Left, pyosalpinx; right, salpingitis.	Removal of uterine appendages.	48 hours	Recovered. (Stitch-hole abscess.)	Dr. C. P. Noble.
10	Mrs. J., Aug. 22	20	Double salpingitis; cheesy tubes; dense adhesions.	Removal of uterine appendages.	24 hours	Recovered. (Sinus.)	Dr. C. P. Noble.
11	Mrs. P., Sept. 10	30	Pyosalpinx, double.	Removal of uterine appendages.	Yes	Recovered.	Dr. H. A. Kelly.
12	Mrs. W., Sept. 12	31	Parovarian.	Removal of one appendage.	None	Recovered.	Dr. H. A. Kelly.
13	Mrs. G., Sept. 23	27	Left tubal pregnancy; right ovarian cyst.	Removal of appendages.	48 hours	Recovered.	Dr. C. P. Noble.
14	Mrs. S., Sept. 26	39	Ovarian cyst.	Removal of appendages.	36 hours	Recovered.	Dr. C. P. Noble.
15	Mrs. B., Oct. 14,	26	Ovaritis; varicocele of broad ligament.	Removal of appendages.	None	Recovered.	Dr. C. P. Noble.
16	Mrs. M., Oct. 19	43	Retroflexion.	Hysterorrhaphy.	None	Recovered.	Dr. H. A. Kelly.
17	Mrs. C., Oct. 24	40	Pyosalpinx; intra-peritoneal abscess.	Removal of appendages.	33 hours	Recovered. (Sinus.)	Dr. C. P. Noble.
18	Mrs. L., Oct. 26	30	Gonorrhoeal salpingitis.	Removal of appendages.	29 hours	Recovered.	Dr. C. P. Noble.
19	Mrs. H., Nov. 30	33	Hydrosalpinx.	Removal of appendages.	3 days	Recovered.	Dr. H. A. Kelly.
20	Mrs. P., Jan. 3, 1890	23	Pyosalpinx and abscess of ovary.	Removal of one uterine appendage.	48 hours	Recovered.	Dr. C. P. Noble.
21	Mrs. C., Jan. 4	28	Ovarian tumor.	Removal of uterine appendages.	48 hours	Recovered.	Dr. H. A. Kelly.
22	Mrs. O., Jan. 28	35	Fibroid of uterus.	Removal of left uterine appendage; right, inaccessible.	48 hours	Recovered.	Dr. C. P. Noble.
23	Mrs. J., Jan. 30	29	Double pyosalpinx; abscess of left ovary.	Removal of both appendages; ½ pint of pus.	72 hours	Recovered.	Dr. C. P. Noble.
24	Miss C., Feb. 1	22	Retroflexion.	Hysterorrhaphy.	48 hours	Recovered.	Dr. H. A. Kelly.
25	Mrs. S., Feb. 1	28	Ovarian tumor on right side; cystic ovary on left.	Removal of uterine appendages.	5 days	Recovered.	Dr. H. A. Kelly.
26	Mrs. C., Feb. 4	28	Salpingitis and cystic ovaries.	Removal of appendages.	16 days Hemorrhage.	Recovered.	Dr. C. P. Noble.
27	Miss R., Feb. 8	19	Dermoid cyst of left ovary.	Removal of left appendage; very dense adhesions.	22 days	Recovered. ¹	Dr. C. P. Noble.
28	Mrs. Y., Feb. 27	40	Ovarian tumor on right side; salpingitis on left.	Removal of tumor and appendage on left side.	58 hours	Recovered.	Dr. C. P. Noble.
29	Mrs. S., March 1	32	Salpingitis, double.	Removal of uterine appendages.	48 hours	Recovered.	Dr. H. A. Kelly.

¹ Fecal fistula discovered after 48 hours. After third week fecal fistula closed, and after eight weeks sinus entirely closed up.

No.	Name, and date of operation.	Age	Disease.	Operation.	Drainage	Result.	Operator.
30	Mrs. R., March 7	29	Right, intraligamentary ovarian cyst adherent to ureter; left tube and ovary adherent; chronic nephritis.	Removal of uterine appendages; chloroform.	Yes	Death 3d day. Suppression of urine after 24 hours. Post-mort.	Dr. C. P. Noble.
31	Mrs. Z., March 13	31	Double hydrosalpinx, size of orange, on right side.	Removal of uterine appendages.	Yes	Death third day from intestinal obstruction coming on after 24 hrs. Organic stricture of colon. Post-mort. Recovered.	Dr. C. P. Noble.
32	Mrs. McV., March 15	42	Retroflexion of uterus.	Hysterorrhaphy.	None	Recovered.	Dr. H. A. Kelly.
33	Mrs. N., March 20	28	Unruptured tubal pregnancy on right side; salpingitis on left.	Removal of pregnant tube and ovary, also left appendage.	48 hours	Recovered.	Dr. C. P. Noble.
34	Miss V., March 29	21	Ovarian cyst on right side.	Removal of right uterine appendage	48 hours	Recovered.	Dr. H. A. Kelly.
35	Mrs. X., April 3	24	Cystic degeneration of ovaries; double salpingitis.	Removal of uterine appendages.	50 hours	Recovered.	Dr. C. P. Noble.
36	Mrs. C., April 5	40	Tuberculosis peritonei; cancer of ovaries.	Evacuation of fluid and removal of left uterine appendage.	48 hours	Recovered.	Dr. H. A. Kelly.
37	Miss R., April 7	23	Gonorrhoeal salpingitis.	Removal of uterine appendages.	36 hours	Recovered.	Dr. C. P. Noble.
38	Mrs. X., April 12	30	Salpingitis with extensive adhesions.	Removal of uterine appendages.	77 hours	Recovered.	Dr. C. P. Noble.
39	Mrs. McC., April 12	...	Myoma uteri.	Myomectomy; removal of right ovary and tube	Yes	Recovered.	Dr. H. A. Kelly.
40	Miss C., April 12	30	Large cystic ovaries; menstrual epilepsy.	Removal of uterine appendages.	48 hours	Recovered.	Dr. H. A. Kelly.
41	Mrs. J., April 15	44	Fibroid of uterus and double salpingitis.	Removal of uterine appendages.	50 hours	Recovered.	Dr. C. P. Noble.
42	Mrs. R., April 15	33	Salpingitis with adhesions.	Removal of appendages; right tube rudimentary with ovary separated from pelvis and attached to omentum.	67 hours	Recovered.	Dr. C. P. Noble.
43	Mrs. W., April 19	39	Intraligamentous cyst right side.	Removal of cyst.	48 hours	Recovered.	Dr. H. A. Kelly.
44	Miss J., April 19	23	Double ovarian tumor.	Removal of tumors; pedicle to right tumor very fleshy.	72 hours	Recovered. Hemorrhage—reopened belly next day and flushed; sutured broad ligament.	Dr. C. P. Noble.
45	Mrs. R., April 22	27	Small ovarian cyst.	Removal of uterine appendages.	48 hours	Recovered.	Dr. C. P. Noble.
46	Mrs. B., April 22	20	Double salpingitis, with ovarian cyst on left side.	Removal of uterine appendages.	78 hours	Recovered. Ether pneumonia.	Dr. C. P. Noble.

No.	Name, and date of operation.	Age	Disease.	Operation.	Drainage	Result.	Operator.
47	Mrs. R., April 26	29	Dense adhesion of small intestines and rectum to pedicle of left tube and ovary resulting from operation one year ago.	Adhesions broken up.	55 hours	Recovered.	Dr. C. P. Noble.
48	Mrs. J., April 27	28	Pregnancy complicated by contracted pelvis.	Cæsarean section.	None	Recovered.	Dr. C. P. Noble.
49	Miss X., May 3	22	Ovaritis; large left ovary.	Removal of left uterine appendage.	43 hours	Recovered.	Dr. C. P. Noble.
50	Mrs. M., May 7	34	Specific tubo-ovarian inflammation.	Either: removal of both tubes and ovaries with difficulty.	42 hours	Death from uremic poisoning. Post-mort.: chronic nephritis.	Dr. C. P. Noble.
51	Mrs. K., May 10	37	Double ovarian cyst.	Tumors removed; 4 gals. pus evacuated from right cyst; ligated fleshy pedicle 7 or 8 inches wide	30 hours	Recovered.	Dr. C. P. Noble.
52	Mrs. C., May 13	35	Double hydrosalpinx, with adhesions.	Removal of uterine appendages.	Yes	Death from septic peritonitis on fifth day.	Dr. C. P. Noble.
53	Mrs. A., May 31	54	Ruptured colloid cyst of right ovary.	Removal of cyst and free colloid material in peritoneum.	2 weeks	Recovered.	Dr. C. P. Noble.
54	Mrs. A., June 2	40	Extra-uterine pregnancy. Ruptured tube.	Belly filled with fluid and clotted blood to diaphragm; appendage tied off.	Yes	Death from acute sepsis within 36 hours? hyperpyrexia; no other symptom.	Dr. C. P. Noble.
55	Mrs. L., June 4	22	Right ovarian cyst; double pyosalpinx.	Removal of uterine appendages.	Yes Belly reopened and flushed.	Death from acute septic peritonitis.	Dr. C. P. Noble.
56	Mrs. B., June 11	27	Double salpingitis.	Removal of uterine appendages	65 hours	Recovered.	Dr. C. P. Noble.
57	Mrs. T., June 19	...	Salpingitis and extensive adhesions.	Removal of uterine appendages.	10 days Slight hemorrhage.	Recovered.	Dr. C. P. Noble.
58	Mrs. W., Sept. 4	40	Ovarian tumor on right side; par-ovarian on left side.	Removal of uterine appendages; ether.	Yes	Death from uremia on third day. Post-mort.: contracted kidneys.	Dr. C. P. Noble.
59	Mrs. S., Sept. 4	30	Parovarian cyst on left side.	Removal of cyst.	72 hours	Recovered.	Dr. C. P. Noble.
60	Mrs. B., Sept. 6	34	Pyosalpinx with ovarian cyst on right side; left salpingitis.	Removal of appendages.	10 days	Recovered. Belly reopened for peritonitis; flushed.	Dr. C. P. Noble.
61	Mrs. M., Sept. 13	58	Intra-ligamentous ovarian cyst on left side.	Removal of cyst containing 8 qts. of fluid material.	40 hours	Recovered.	Dr. C. P. Noble.
62	Miss W., Oct. 15	30	Fibroid tumor.	Removal of appendages.	2 days	Recovered.	Dr. C. P. Noble.
63	Mrs. Y., Oct. 15	26	Small ovarian tumor and large hydrosalpinx on right side; hæmato-salpinx on left.	Removal of appendages; left ovary not removed.	4 days	Recovered.	Dr. C. P. Noble.

No.	Name, and date of operation.	Age	Disease.	Operation.	Drainage	Result.	Operator.
64	Mrs. X., Oct. 18	27	Double pyosalpinx; ovarian tumor on right side.	Removal of tumor and appendages.	4 days 2 tubes.	Recovered.	Dr. C. P. Noble.
65	Mrs. W., Nov. 5	42	Chronic invalidism; adherent cirrhotic ovaries.	Removal of appendages.	5 days	Recovered.	Dr. C. P. Noble.
66	Miss W., Nov. 8	30	Cellulitis right broad ligament.	Exploratory incision.	Yes	Recovered.	Dr. C. P. Noble.
67	Mrs. P., Nov. 19	24	Cheesy tubes with cystic ovaries.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
68	Miss C., Nov. 23	23	Dysmenorrhœa; constant pelvic pain; cystic and cirrhotic ovaries; neurasthenia.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
69	Mrs. X., Dec. 10	30	Double pyosalpinx.	Removal of uterine appendages.	4 days	Recovered. Ether bronchitis.	Dr. C. P. Noble.
70	Mrs. J., Dec. 17	24	Ovarian cyst and hæmato-salpinx on left side.	Removal of left uterine appendage.	2 days	Recovered.	Dr. C. P. Noble.
71	Mrs. O., Jan. 10, 1891	37	Double salpingitis; unruptured tubal pregnancy on left side.	Removal of uterine appendages.	32 hours	Recovered.	Dr. C. P. Noble.
72	Mrs. A., Jan. 17	41	Cystic ovaries and chronic salpingitis.	Removal of uterine appendages.	4 weeks Hemorrhage.	Recovered.	Dr. C. P. Noble.
73	Mrs. H., Jan. 17	38	Ovarian cyst on left side; fibroid of uterus; menstrual insanity.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
74	Mrs. Y., Jan. 22	28	Chronic salpingitis and ovariitis; very dense adhesions.	Removal of uterine appendages.	2½ days	Recovered.	Dr. C. P. Noble.
75	Mrs. C., Jan. 28	42	Tubercular peritonitis and cancer of stomach.	Evacuation of fluid.	80 hours	Recovered. ¹	Dr. C. P. Noble.
76	Mrs. M., Feb. 5	26	Pyosalpinx on right side; salpingitis on left.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
77	Mrs. P., March 11	33	Ovarian tumor on right side; salpingitis on left.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
78	Mrs. H., March 11	33	Retroflexion; adherent appendages.	Removal of uterine appendages	5 days	Recovered.	Dr. C. P. Noble.
79	Mrs. K., March 16	38	Double hydrosalpinx.	Removal of appendages.	4 days	Recovered.	Dr. C. P. Noble.
80	Mrs. A., March 16	36	Double hydrosalpinx.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
81	Miss T., March 23	17	Fibroid of uterus.	Exploratory section.	None	Recovered.	Dr. C. P. Noble.
82	Miss S., March 23	34	Rudimentary appendages; neurasthenia.	Removal of uterine appendages.	2 days	Recovered.	Dr. C. P. Noble.
83	Mrs. N., Sept. 27, 1890	34	Ovarian cystoma on left side.	Removal of one appendage.	12 hours	Recovered.	Dr. H. A. Kelly.
84	Mrs. C., Sept. 27	40	Tuberculous peritonitis.	Removal of right uterine appendage.	Yes	Recovered.	Dr. H. A. Kelly.
85	Mrs. M., Sept. 28	30	Right, ovarian cystoma; left, adherent ovary and tube.	Removal of uterine appendages.	Yes	Recovered.	Dr. H. A. Kelly.

¹ Death from exhaustion on the 11th day caused by constant vomiting excited by cancer of stomach. Had been vomiting for two months. Post-mortem.