

A SHORT ACCOUNT OF THE DEATHS OCCURRING IN THE GYNECOLOGIC SERVICE OF THE JOHNS HOPKINS HOSPITAL DURING THE YEAR 1919

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In the course of a discussion of the results of the year's work, at a recent meeting of the gynecologic staff, it was suggested that we might, with profit, briefly analyze the histories of our fatal cases, inasmuch as one can often learn more from failures than from successes. At Dr. Cullen's request, I have prepared this short paper.

During the year 1919, 1,024 patients were admitted to the gynecologic service. Of this number, 793 were anesthetized. From the accompanying table, one can gather a clear idea of the number and character of the operations performed.

NUMBER AND CHARACTER OF OPERATIONS PERFORMED DURING THE YEAR 1919

Operation	Number	Operation	Number
Appendectomy	370	Exploratory laparotomy	12
Salpingectomy (double and single) ..	108	Nephrectomy	2
Salpingo-oophorectomy (double and single)	216	Nephrolithotomy	1
Hysterectomy	190	Nephropexy	2
Panhysterectomy	19	Cholecystostomy	14
Perineal repair	165	Repair of vesicovaginal fistula....	8
Dilation and curettage.....	187	Hemorrhoidectomy	13
Amputation of cervix*.....	17	Removal of carcinoma of vulva....	2
Trachelorrhaphy	3	Cauterization of cervix	10
Modified Gilliam suspension.....	77	Repair of complete perineal tear... 8	
Modified Coffey suspension.....	5	Lipectomy	4
Kelly round ligament suspension....	1	Ureterotomy	2
Vaginal suspension	8	Suture of vesical neck	7
Ventral fixation	3	Resection of bladder	1
Miscellaneous	48	Colostomy	2
Pelvic drainage	30	Total	1560
Radical cure of hernia.....	25		

* Amputation of the cervix is rarely performed on patients during the child-bearing period.

From this table, it will be seen that in only two cases was the kidney suspended, whereas, in former years, from fifteen to twenty such operations were performed. A loose kidney is very common,

especially in thin individuals, but rarely gives rise to symptoms requiring operative interference. Formerly, it was deemed necessary to stitch up the kidney in those cases in which the renal discomfort was marked, but Dr. Hunner, and later, others have found that the pain in many of these cases is due to a ureteral stricture, and that after one or two ureteral dilations the discomfort disappears, and operation is rendered unnecessary.

Following out the suggestion of Dr. Kelly, made years ago, the gallbladder region is invariably palpated in every case in which there is the faintest suspicion of trouble in the right upper quadrant, just as soon as the abdomen is opened, because when a pelvic infection exists, the infection might readily be carried into the upper abdomen if the examination is deferred until the pelvic operation has been completed. It is interesting to note that among more than 400 laparotomies, in which this routine examination was made, in only fourteen cases, or about 3.5 per cent., was trouble found in the gallbladder.

REPORT OF DEATHS

CASE 1 (Gyn. No. 24669).—E. M., white, aged 31, was admitted to the hospital on Jan. 18, 1919. She had been married fourteen years, but had never been pregnant. The menstruation had been irregular for the last ten years, and for the last year there had been amenorrhea. During that period, however, she had had irregular bleeding five or six times, and the abdomen had gradually increased in size, in eighteen months, to that of a full term pregnancy. She had very little pain or discomfort, but had had a temperature varying from 100 to 103 F. A diagnosis of left ovarian cyst was made, and the patient was sent home for two weeks.

She was readmitted on March 5. The leukocyte count was 5,400, and hemoglobin 42 per cent.

The uterus, tubes, ovaries and appendix were removed by Dr. Hampton in two hours and five minutes. At operation a tuberculous peritonitis was found together with a ruptured right ovarian cyst.

On the evening of the fourth day the patient suddenly became cyanotic, had great difficulty in breathing, complained of severe pain in the chest, and died in a few minutes.

The clinical diagnosis was pulmonary embolism.

Necropsy was refused.

CASE 2 (Gyn. No. 24747).—S. S., colored, aged 37, was admitted on March 21, 1919. She had been married seven years, but had never been pregnant. She complained of occasional pain in the left side of the abdomen. She had a retroposition of the uterus, her hemoglobin was 65 per cent.

March 26, Dr. Wooley shortened the round ligaments according to the modified Gilliam method and removed the appendix. The operation lasted one hour.

On April 6 (the twelfth day), the patient suddenly collapsed and died in fifteen minutes.

Necropsy (No. 5869) revealed a thrombosis of the pelvic veins, pulmonary embolism with occlusion of the main branches of the pulmonary arteries of both lungs, and focal necroses in the liver.

CASE 3 (Gyn. No. 24894).—H. R., colored, aged 45, was admitted on May 9, 1919. She had an umbilical hernia which had gradually increased in size until the umbilical ring was 6 cm. in diameter. Her hemoglobin was 83 per cent., blood pressure was 204 systolic and 120 diastolic. Operation was performed, May 22, by Dr. Shaw for radical cure of the umbilical hernia. Duration of the operation was one hour and forty-five minutes.

On the tenth day she developed hesitancy of speech and the left side of the face was drawn. She went into coma at 6 p. m. and died at 7 a. m. on the following morning.

Necropsy (No. 5920) revealed a pulmonary embolus.

CASE 4 (Gyn. No. 24986).—L. G., white, age not obtained, admitted July 6, 1919, was suffering from a puerperal infection due to a criminal abortion performed nine days before. When the patient entered the hospital she was in coma and no history could be obtained. Operation was out of the question, and the patient died a few hours after admission.

The diagnosis was puerperal sepsis. This was a coroner's case.

CASE 5 (Gyn. No. 25153).—F. S., white, aged 35, admitted Sept. 3, 1919, had an inoperable squamous-cell carcinoma of the cervix. The erythrocyte count was 1,800,000, the hemoglobin 12 per cent. No operation was attempted. She died on September 9.

Necropsy (No. 5999) revealed extensive metastases to the pelvic, retro-peritoneal and inguinal lymph glands. There were also cirrhosis of the liver, duodenal ulcer and pulmonary edema.

CASE 6 (Gyn. No. 26065).—M. C., colored, aged 64, was admitted July 31, 1919. The menopause had occurred twenty years before. She gave a history of vaginal bleeding for two months. The cervix was replaced by a friable cauliflower-like cancerous growth. The blood pressure was 150 systolic and 105 diastolic; hemoglobin was 70 per cent.

August 2. Dr. Hampton performed a panhysterectomy, and the tubes and ovaries were also removed. The duration of the operation was two hours. The patient did not recover consciousness, and died thirty-six hours after cancerous operation.

Necropsy (No. 5968) revealed double bronchopneumonia.

CASE 7 (Gyn. No. 25014).—M. P. W., white, aged 45, admitted July 2, 1919, had marked diastasis of the recti and an enormous accumulation of fat in the abdominal wall. She weighed 194 pounds.

July 5, Dr. Shaw performed a lipectomy and brought the rectus muscles together. The operation required one hour.

On the fifteenth day, the first day the patient was up, she suddenly became cyanotic, her respirations were labored, and she died fifteen minutes after the onset of the symptoms.

The diagnosis was pulmonary embolism.

Necropsy was refused.

CASE 8 (Gyn. No. 25194).—A G., white, aged 36, admitted Sept. 13, 1919, had become infected as the result of a criminal abortion. Her temperature was 104 F., leukocyte count 11,000, and hemoglobin 79 per cent. A blood culture showed *Streptococcus hemolyticus*.

Dr. Brady, on September 15, removed the infected placenta. The patient died on September 26. As this was a coroner's case, no necropsy was performed.

CASE 9 (Gyn. No. 25249).—A. T., white, aged 39, was admitted on Sept. 26, 1919. The patient had been operated on in a Detroit hospital three years before. The uterus, tubes, and ovaries were removed. At that time the rectum was injured and a rectal stricture developed. She was admitted on the surgical service of this hospital and the stricture was dilated. A general peritonitis followed. She was transferred to the gynecologic department for vaginal drainage. Her general condition did not improve. She died on October 13.

Necropsy was refused.

CASE 10 (Gyn. No. 25390).—M. L., white, aged 51, admitted, Oct. 27, 1919, had had backache, swelling of the ankles, and dyspnea for four years. Filling the pelvis and extending 5 cm. above the umbilicus was a large myoma. The leukocyte count was 4,400, the hemoglobin 25 per cent. The patient was transfused, and before operation the hemoglobin had risen to 40 per cent.

November 10, Dr. Cullen removed the myomatous uterus; the tubes and ovaries were also removed. The operation was a very difficult one, and a large amount of blood was lost. The hemoglobin two days later was 30 per cent.

The patient did well until the eleventh day, when she developed phlebitis of the left femoral vein. On Nov. 22, 1919, she suddenly collapsed. Her respirations grew shallow and ceased. Death was evidently due to pulmonary embolism.

Necropsy was refused.

CASE 11 (Gyn. No. 25450).—D. C., colored, aged 38, was admitted Nov. 10, 1919. In 1906, the patient was on the surgical service of the Johns Hopkins Hospital. Her gallbladder was drained and a stone removed from the common duct.

In 1915 she again entered the Johns Hopkins Hospital. At that time the gallbladder was removed and an appendectomy was performed. Prior to closing the abdomen, the operator examined the right kidney and found that it was large and contained a stone. Three months later she entered the gynecologic service. The phenolsulphonephthalein output at that time was 24 per cent. in the first hour. Two stones were removed from the right kidney.

One week before her admission in 1919, she had pain in the right kidney region with the formation of a painful tumor, 10 cm. in diameter at this point. The leukocyte count was 13,000; the hemoglobin was 45 per cent. The phenolsulphonephthalein output in two hours was nil, the urine was very foul and loaded with pus. The right ureter was catheterized and pure pus was obtained. Cultures from this yielded the colon bacillus. The roentgen-ray examination demonstrated large stones in both kidneys.

Operation was performed, November 22, by Dr. Shaw. Under local anesthesia with 0.25 per cent. procain, a right perinephritic abscess was incised and drained, and 500 c.c. of pus were obtained.

The patient was transfused on November 26, 500 c.c. of citrated blood being introduced. Uremia gradually developed and the patient died on December 8, sixteen days after the palliative operation.

Necropsy (No. 6079) revealed bilateral pyonephrosis and bilateral nephrolithiasis.

CASE 12 (Gyn. No. 25514).—A. J., white, boy, aged 2 days, was admitted, Dec. 29, 1919, with an imperforate anus. Operation was performed, December 29, by Dr. Cullen. As the rectum could not be located on perineal section, a temporary colostomy was performed. Death occurred thirty hours later.

Necropsy (No. 6108) revealed bilateral hydronephrosis. Both kidneys were in the pelvis. The ureters for the lower 4 cm. were impervious. The rectum was lacking. It would have been impossible for this child to live.

CASE 13 (Gyn. No. 25345).—M. H., white, aged 38, was admitted Nov. 10, 1919. The patient had been married six years and had never been pregnant. One brother had died of tuberculosis. For the last seven weeks she had noticed a gradually increasing abdominal tumor and during this time she had lost 25 pounds. She had had a rather obstinate constipation.

On examination we found an abdominal tumor, quite hard, irregular in outline, fairly movable, arising from the pelvis and extending 3 cm. above the umbilicus. It was thought to be a myoma.

On November 11 an exploratory laparotomy was performed by Dr. Cullen, but the loops of the bowels were everywhere so densely adherent to one another that it was impossible to reach the pelvic organs. Any attempt to free the adhesions would have been futile. The patient died six hours later.

Necropsy (No. 6049) revealed a tuberculous peritonitis, although no tubercles were to be seen at operation, even after very careful inspection.

CASE 14 (Gyn. No. 25505).—A. S., white, aged 64, admitted Nov. 20, 1919, had had bloody urine for four years. Her hemoglobin was 46 per cent.; the leukocyte count was 14,000. The patient had a large papillomatous mass in the base of the bladder. It was about 6 cm. in diameter and occluded the left ureteral orifice. Microscopic examination of the tumor disclosed carcinoma.

No operation was performed, but radium was tried. The tumor, however, rapidly increased in size and became firmly fixed in the left pelvic wall. She died on December 26.

Necropsy was refused.

COMMENT

From the foregoing case reports, it will be noted that in a total number of 1,024 cases there were fourteen deaths. These deaths may be best analyzed by groups.

In three of the cases no operation was performed.

In Case 4 (Gyn. No. 24986), we had to deal with an infected criminal abortion. The woman was in a comatose condition when she entered the hospital and died very soon.

In Case 5 (Gyn. No. 25153), there was an inoperable carcinoma of the cervix, and in Case 14 (Gyn. No. 25505) an inoperable carcinoma of the bladder.

Group 1: Cases 12, 8, 9, 11 and 13 were desperate surgical risks. In Case 12 (Gyn. No. 25514), the child was only 2 days old, and had an imperforate anus. A colostomy was performed, and the child speedily succumbed. Necropsy showed that the ureters were impervious in their lower ends, and that as a consequence the pelves of both kidneys were dilated. No operation would have saved the child.

In Case 8 (Gyn. No. 25194), we had an infected criminal abortion with a temperature of 104 F. Nothing was done except to remove the infected placenta. Blood cultures showed *Streptococcus hemolyticus*.

In Case 9 (Gyn. No. 25249), the patient was referred from the surgical service with a general peritonitis following rupture of a rectal stricture. This patient was so ill on admission that nothing but vaginal drainage was attempted.

In Case 11 (Gyn. No. 25450), the patient was in a desperate condition and had practically no phenolsulphonephthalein output in two hours. Under local anesthesia, a right perinephritic abscess was opened, but uremia gradually developed and the patient died. The outlook in this case was practically hopeless.

In Case 13 (Gyn. No. 25345), an exploratory abdominal operation was performed. The intestinal loops were everywhere densely adherent, so much so, that the pelvic structures could not be located and the operation had to be abandoned. Necropsy showed a widespread peritoneal tuberculosis.

Group 2: In the following three cases, operation offered a reasonable chance of success.

In Case 1 (Gyn. No. 24669), the patient had a tuberculous peritonitis and a right-sided ovarian cyst. On the fourth day she suddenly became cyanotic, complained of severe pain in the chest, and died a few minutes later. The symptoms indicated pulmonary embolism.

In Case 6 (Gyn. No. 26065), the woman underwent an extensive operation for carcinoma of the cervix. She did not recover consciousness, and died thirty-six hours after operation. Necropsy revealed double bronchopneumonia.

In Case 10 (Gyn. No. 25390), the patient had a large myoma. On admission the hemoglobin was 25 per cent. After transfusion, it rose to 40 per cent. On the eleventh day after hysterectomy she had a phlebitis and on the twelfth day she suddenly collapsed and died with signs of pulmonary embolism.

Group 3: Three unexpected deaths occurred in cases in which the operations had been simple.

In Case 2 (Gyn. No. 24747), the patient entered the hospital on account of a retroposition. The round ligaments were shortened by the modified Gilliam method and the appendix was removed. She did well until the twelfth day when she suddenly collapsed and died in fifteen minutes. At necropsy thrombosis of the pelvic veins was found. There were pulmonary emboli with occlusion of the main branches of the pulmonary arteries in both lungs. Focal necroses were also found in the liver.

In Case 3 (Gyn. No. 24894), the patient had a large umbilical hernia, and a rather high blood pressure. On the tenth day after operation she developed a hesitancy of speech. The left side of the face was drawn. She went into coma the same evening and died the next morning. Necropsy disclosed a pulmonary embolus.

In Case 7 (Gyn. No. 25014), the patient had a great quantity of abdominal fat, also marked diastasis of the rectus muscles. A lipectomy was performed and the rectus muscles were approximated. On the fifteenth day, the first day that she was up, she suddenly became cyanotic and her respirations grew labored. She became unconscious, and died fifteen minutes after the onset of the attack. The symptoms were those of pulmonary embolism. A necropsy was refused.

The deaths in these three cases were undoubtedly due to thrombosis of the veins followed by the escape of emboli to the lungs.

CONCLUSIONS

The statistics recently published by Wharton and Hampton from this clinic clearly indicate that trauma of the large veins at operation is an important factor in the causation of thrombi, and Dr. Cullen in the operating room has been insistent that great care be taken not to injure the small veins beneath the rectus muscles. Simple traction on the under surface of the muscle with the finger when the abdomen is being opened will tear them, and troublesome oozing may follow. These veins should be promptly tied and any clotted blood removed. Dr. Cullen believes that the lack of this simple precaution is in some cases responsible for subsequent thrombosis of the pelvic veins.

With the increasing use of transfusion when the hemoglobin is low, and with the more delicate handling of the tissues, the operative mortality will be still further reduced, but even then a sudden fatality from an embolus will occasionally startle us and make us realize that we are not infallible and that we still have much to learn in the handling of abdominal cases.

It is the intention of the gynecologic department to publish a short account of the deaths occurring each year.