TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting held March 1, 1920

The President, Dr. George Ross, in the Chair

INTRA-ABDOMINAL HEMORRHAGE FROM RUPTURED CORPUS LUTEUM

Dr. John Speese reported the history of a woman, aged twenty years, who was admitted to the Presbyterian Hospital September 1, 1919, complaining of severe abdominal pain and vomiting. The attack began August 31, 1919, at 11 P.M., was sudden in its outset, the pain was localized to the right side in the beginning, but later extended over the entire abdomen, and at the time of admission was again localized in the right iliac fossa. Vomiting occurred after taking some medicine, bowels have been regular, no diarrhœa. Patient says she had a similar attack eighteen months ago.

Menstruation regular and normal, and the last period twenty-two days ago. Patient has been married for two years, has had no children and no miscarriages. Vaginal examination was negative. Leucocytic count 18,850. On opening the abdomen a large quantity of fresh blood was found free in the abdominal cavity, and large clots in the pelvis, the picture being that of a ruptured ectopic pregnancy. The right ovary was enlarged and on examination a point of rupture was noted, from the torn edge of which a constant but small stream of blood escaped, the hemorrhage evidently coming from a small vein. The tube appeared normal, as did the opposite tube and ovary. The ruptured ovary and the appendix, which was the seat of a chronic lesion, were removed.

The patient made an uninterrupted recovery, convalescence being delayed by the secondary anæmia (hæmoglobin, 40 per cent.; red blood count, 2,520,000), which responded rapidly to medical treatment.

Pathological Examination.—The ovary of normal size has on its superior surface an irregular ragged opening which measures 3 by 1.5 cm. The rupture involves almost the entire surface except 1 cm., where the ovarian tissue appears normal. Sections taken from the edges and base of the torn area reveal the usual picture of a corpus luteum and no evidence of the existence of pregnancy.

At the time of operation the condition was regarded as an ovarian pregnancy, but careful microscopic study of the specimen failed to show this condition. The case must, therefore, be classified as one of ovarian hemorrhage following rupture of a corpus luteum. Bovee (Gynecologi-

cal Transactions, 1918, xliii, 76) has studied exhaustively the subject of tubal and ovarian hemorrhage, and states that hemorrhage from the ovary may be confined within the ovary, constituting one or more hæmatoma, or it may take place into the peritoneal cavity, producing, if abundant, a hæmatocele. In the former variety it may occur in the stroma, into new growths, or into follicles in any stage of development. If before or during follicular hemorrhage rupture of the follicle or of the wall about a stromal active hemorrhage occurs, the peritoneum may be deluged.

The majority of cases occur during or within a few days of the menstrual period, and the changes in the ovary at this time are in all probability the most important predisposing factors. While various varieties of hemorrhage may take place in the ovary, hemorrhage from the corpus luteum, with resulting intraperitoneal hæmatocele, seems so simple and easy that Bovee wonders that it is recognized so infrequently.

The case reported follows the usual history of these instances of ovarian hemorrhage due to rupture of a corpus luteum, the rupture occurring six days before the menstrual period, was not preceded by any trauma or strain. The symptoms were not characteristic, and resembled those of appendicitis. In view of a previous attack, the absence of shock and a negative menstrual history, this diagnosis was made and perhaps not enough attention directed to the slight degree of pallor present, and only a leucocytic count made before operation. The presence of hemorrhage was not discovered until operation, which fortunately was performed immediately after admission to the hospital.

FECAL FISTULÆ WITH MULTIPLE JOINT INFECTION

Dr. Arthur E. Billings reported the history of a boy, aged five years, who was referred by Doctor Niles, of Carbondale, Pa., July 19, 1919, to the service of Doctor Gibbon at the Jefferson Hospital.

His chief complaint was profusely discharging fecal fistulæ in the right lower abdominal quadrant. He had been operated upon three years before for an appendicial abscess, and a short time after this he was operated upon a second time for the closure of a fecal fistula which developed soon after the appendix operation. He was then seen by Doctor Niles who found multiple openings on examination, and tried to close the fistulæ by suture without resection, but the attempt was unsuccessful. The patient's mother stated that he had not had a normal bowel movement for nearly three years, all fecal discharge occurring through the fistulous openings in the abdominal wall.

Physical examination did not reveal anything abnormal except in the abdomen. He was a little small for his age, but was fairly well nourished. The abdomen was not distended or tender except in the region of the old scars and the four fistulous openings which occupied most of the right lower quadrant. The two smaller openings were external and the two

larger ones were on the inner side of a rather long oblique incision which extended almost to the midline just above the pubis. There was marked eversion of mucous membrane about all the openings, particularly the larger two, either of which would admit one or two fingers.

Doctor Manges demonstrated by fluoroscopic and skiagraphic examination after barium meal, barium enemata and injection of barium through the fistulæ, that the two outer openings were in the cæcum and the two larger ones were in the descending colon or sigmoid; one filling the segment of colon above and the other the sigmoid and rectum.

The urine was negative on admission and subsequently, except for a trace of albumin and a few hyaline casts immediately after operation. There was no leucocytosis, and the temperature was practically normal (running up to 99.3 on two or three occasions) from the time of admission to operation August 4, 1919; during which time there had not been any discharge of fæces by rectum.

The patient was anæsthetized with chloride of ethyl and ether. The abdomen was cleaned with benzine and the fistulous openings were closed with continuous sutures to prevent leakage during operation. The field was again cleaned with benzine and then painted with tincture of iodine. An oblique elliptical excision of the fistulous openings was then made in line with the old scar. As the abdomen was opened and the adherent intestines separated the peritoneal cavity was protected with gauze packs. The cæcum was separated from the mass and the two openings which were on the anterior and inner surfaces were closed with a series of inverting chromic catgut sutures. The other two openings, which were found to be due to a complete division of the sigmoid down to its mesentery, were closed, after separating and freshening its ends, by doing an end-to-end anastomosis with a double suture line of chromic catgut. The abdomen was closed with considerable difficulty (because of loss of tissue and scar formation) around two rubber-covered gauze drains. The patient was in fairly good condition at the end of the operation. On the second day after operation his temperature went to 102° and his pulse to 170 with evidence of a good deal of infection in and about the wound, without vomiting or much distention. His pulse-rate by the third day had dropped to between 100 and 120 with a temperature a little above 100°. By this time there was considerable purulent discharge from the wound which was characteristic of a colon bacillus infection. His temperature was not quite normal until seventeen days after operation. The wound was discharging pus freely, but had discharged very little, if any, fecal matter. On September 25th his temperature rose to 102° with pain about the right knee-joint; and in forty-eight hours both knees were swollen and distended with fluid, but not very tender. Leucocytes, 7200. There was no redness or heat about either joint. Temperature on October 1st, six days after onset of pain, was normal. A few days later the left and right ankles were successively involved with less acute signs than were mani-

fested in the knee-joints. The temperature continued irregularly then for the next two months between normal and 100°.

With considerable periarticular thickening about all of the joints involved, X-ray showed cloudy distention of both knee-joints without evidence of bone involvement. Otherwise all were negative. All of the involved jonts were fixed with splints and saturated solution magnesium sulphate dressings with ice-bags were applied until all acute symptoms had subsided. The abdominal wound had healed except superficially where there had been considerable skin separation. Blood culture was negative on September 30th, and the leucocyte count was not recorded above 9500.

The patient was discharged with good joint function, but with definite thickening about all of the involved joints, more particularly in the knees. None of the joints were aspirated and there is no positive evidence that there was a direct connection between the abdominal and joint infections, although this probably was the case.

DR. A. BRUCE GILL thought it very possible that there was a connection between the abdominal infection and the infection of the joints. He thought colon infection of joints to be rather common. He recalled the case of a boy who came up from North Carolina to the Presbyterian Hospital whom he saw in consultation with Doctor Wharton. The boy gave a history that about a week previous to an acute onset of arthritis of the knees he had a severe intestinal disturbance, which began with a sudden fainting attack and continued with fairly high fever. After the onset of the arthritis he was treated at home for a while for rheumatism, and was then brought to Philadelphia as he was showing no improvement. A culture of a sterile catheterized specimen of urine was made and it was found to contain a colon bacillus in pure culture. An autogenous vaccine was administered, and the patient showed rather rapid recovery. He left the hospital a few weeks later almost completely cured.

On several other occasions in cases of chronic arthritis he had found a pure colon infection of the urine. One writer, whose name he did not recall, believes that in cases of focal infection anywhere in the body the microörganism which causes the infection can usually be recovered in the urine. While this does not prove that the arthritis is due to the colon infection, it is at least suggestive. Arthritis which is due to colon bacillus infection frequently runs a rather mild course and recovers without any sequelæ. He thought it likely that many cases of chronic hypertrophic arthritis are due to colon bacillus infection.

THE RELATIVE VALUES OF RADIUM AND SURGERY IN THE TREATMENT OF TUMORS OF THE PELVIC ORGANS

DR. JOHN G. CLARK then pronounced the annual oration before the Academy, for which see page 683.

JOHN H. GIBBON said that it was an inspiration to observe the work

which has been done in the Memorial Hospital in New York, for instance, by the coördinated work of surgeon, röntgenologist, and pathologist. He was persuaded that the time is coming when surgeons will probably not operate in cases of cancer of the cervix, in certain cancers of the mucous membrane, and cancer of the tongue. Cancer of the tongue is extremely difficult to cure by operation alone, and he believed that it will soon be shown that better results are obtainable by the use of radium.

He protested against operation in far advanced and in inoperable cancer, and also in those cases where metastasis had already occurred. Operation in these cases is a sad commentary on surgical judgment. Such operations only confirm in the minds of the laity an idea that is already prevalent, that surgery is of no avail in cancer. Every such patient operated upon is educating the public in the wrong way. It is far better to decline to operate, allowing it to be understood that relief through surgery was sought too late.

Dr. E. E. Montgomery approved the stand taken by Doctor Clark. The radium is not to be applied in the larger growths and particularly in those where there are complications. It occurs not unfrequently in fibroid tumors that the growths in order to adapt themselves to the configuration of the pelvis cause more or less twisting of the organ, which torsion affects first the venous circulation, because of the less resistance of the veins. The firmer arteries permit blood to be pumped in and the growth rapidly enlarges, vessels rupture and fill with blood, or it escapes into the abdominal cavity. A hæmatoma may thus be formed in both ovaries. The employment of radium in such cases would seem provocative of trouble rather than affording relief. He operated yesterday upon a woman who had a number of fibroids in her uterus. When the abdomen was opened evidences of free blood almost equal to those seen in ruptured ectopic gestation were seen. The situation of the tumors had led to torsion and rupture of the vessels in the ovaries and the presence of the hæmatoma.

In regard to carcinoma he had seen some remarkable results from radium in recurrences following operative procedures. The disease would clear up and for two or three years there would be entire freedom of any sign of the disorder. When it did recur it would be in deeper structures and free from the annoyance of the superficial disease. The cessation for a time was a demonstration of the great value of this agent. In some cases apparently non-operable, the action of radium seemingly brings about such change as to permit subsequent operation with apparently good results. Where, however, the limitations of the disease permit of operation in healthy tissue and the possibility of entire removal of affected tissue, the knife should be the method employed for its eradication.

In regard to apparently non-operative cases, he remembered a number where the cervix was so completely destroyed as to make it questionable to his mind whether operation should be resorted to, that have

lived fifteen, twenty, and twenty-five years following the removal of the uterus.

He had seen other cases, in which the disease was circumscribed and he felt that no hesitancy existed in promising a favorable result where operation was followed in a few months by recurrence in a virulent form rapidly ending fatally. Much is still to be learned of the character of cancer, the resistance of the patient, and the probabilities of its extension and recurrence. All know that when the disease occurs early in life, prior to the fortieth year, it is almost certain to recur even though the case undergoes early operation.

DR. HENRY K. PANCOAST said that the results that Doctor Clark has gotten he did not think could be duplicated by every one. In the use of radium one has to command, first, common sense; secondly, a knowledge of physics; thirdly, a knowledge of gynecology. All of these are absolutely essential. A great many men have been using radium in the treatment of gynecological conditions and consider little beyond the gynecological aspect of the cases, and their results will not be routinely promising as are to be expected in the judicious use of the radium. In the early days of radium therepy it was usually in the hands of röntgenologists. The use of radium belongs really to the gynecologist and not to the röntgenologist, unless he is doing that work as a special line along with his röntgenology. Doctor Clark's results have been obtained after the most careful work and the most judicious use of the therapeutic agent he has employed.

THE CHLORINE ANTISEPTICS

DR. W. ESTELL LEE read a paper with this title, for which see page 772.

DR. JOHN H. GIBBON emphasized the fact that this subject is just as important now as it was before the war was over, because as far as surgery goes it has been the greatest product of the war. He thought there could be no doubt that the treatment of infected wounds had been revolutionized by the war. He thought Doctor Lee's summary, for one who has been so enthusiastic about one of these preparations, to be a very just summary. He would question the destructive quality ascribed to the hypochlorite solution in fairly clean wounds, for the reason that he had seen it used so extensively in clean wounds without any clinical evidence, at least, of sloughing. The British injected " eusol " into joints and there was very little difference between what took place in those joints and what took place in joints where they used ether or salt solution. One of the most important things that Dakin did was to show that the majority of antiseptics that surgeons had been using for years were valueless because of the way they had been used. This is due to the loss of their germicidal qualities in a short time, due to contact with organisms and wound secretions. To pack a wound with gauze saturated with an antiseptic solution once a day is perfectly useless. In order to obtain

any benefit the antiseptic must be constantly applied. Carrel says: "If it be supposed that each microbe divides every half hour it will give birth in twelve hours to more than fifteen million other microbes." This idea of keeping up the bacteriocidal action of agents is one of the greatest things that has come out of the war. Another great advance is the mechanical sterilization of the wound. He was convinced that the conflicting reports about the various antiseptic agents that have been used—that is, one man claiming that Bipp, another that flavine, another that salt solution, another that hypochlorite is the only thing to use—is due to the fact that in the later months of the war the wounds did well because they were properly débrided, that they had undergone a proper mechanical sterilization, and not because of the employment of any agent. Therefore, it comes down to the question as to what can be done in the infected wounds, and here there has not been any antiseptic that is comparable to the chlorine group.

Dr. John H. Jopson making a comparison between the results obtained by the antiseptic treatment of infected wounds, and closure of the same after reduction of the bacterial content to a certain point, with fresh wounds containing a similar number of bacteria per field, said that one must bear in mind that there are certain factors to consider besides the count. It might be perfectly safe to close the first with a count of one in three fields, and not the second. There is no doubt that the virulence of a particular strain is often reduced by prolonged antiseptic treatment, at least in the same individual. Again, it is never safe to depend on count alone, as a differentiation of the infecting organisms is always necessary to exclude the futile and dangerous attempt to close over a streptococcus, however few in numbers it may be. Wherever a streptococcus has been found at any time, at least two cultures negative for that organism must be obtained at successive times before delayed primary or secondary suture is made.

A certain organism may acquire an immunity to one antiseptic after prolonged treatment, and succumb quickly to another. We have seen this exemplified in a stump in which prolonged Carreling had failed to eradicate a streptococcus, although the count was low, and the stump looked healthy. A very few applications of dichloramine-T sufficed to eliminate the streptococcus, and a successful secondary suture was done. If we agree with Carrel that the only external agents which can influence the time of healing are those making for sterility of the wound, it is evident that this acquired immunity is the explanation of the well-known clinical fact that occasional change in the manner of dressing granulating wounds is often of decided benefit.

Dr. F. O. Allen said that he did not think surgeons appreciated the value of dichloramine-T in the treatment of infections, such as boils, abscesses, broken-down glands, and so forth. He had followed Doctor Lee's work since he first began it and had become very much impressed

with the value of dichloramine-T in local infections, what might be called superficial infections. In any situation where there is a cavity filled with pus that can be thoroughly drained, even in large breast abscesses, packing with gauze saturated with dichloramine-T solution gives results far better than any other treatment he had ever seen. In almost all such instances the abscess cavity can be pretty thoroughly sterilized in one or two days, and after that it closes rapidly.