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Tubal and Peritoneal Tuberculosis

BY ✓

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TUBAL AND PERITONEAL TUBERCULOSIS.¹

WHILE tubercular disease of the internal female generative organs and peritoneum has long been noted and accurately described, it is only within a comparatively short time that its importance has begun to be appreciated by the profession. This change has been wrought by the recent advances made in pelvic and abdominal surgery, which also have been largely instrumental in placing the treatment of the condition upon a scientific basis.

As an example of the increase of knowledge to be derived from systematic work in one direction, one need only turn to the results reported by Williams at the Johns Hopkins Hospital. In his admirable monograph² it is stated that the tubes and ovaries removed for all causes in one hundred and thirty-seven laparatomies at the hospital were subjected to a careful microscopical examination. Five cases, besides the two noted at the time of the operation, were found to present the lesions of tuberculosis. From these cases, which he characterizes as cases of "unsuspected tuberculosis," he draws the natural inference that genital tuberculosis is of far more frequent occurrence than has hitherto been suspected.

The writer had arrived at the same conclusion in regard to the frequency of tubal and peritoneal tuberculosis, not from cases of unsuspected tuberculosis as revealed by the microscope, but from the relatively large number of cases of tubercular disease, easily diagnosed from the macroscopical appearances, met with in the course of forty laparatomies performed during the past two years and a half. And although the question of the

¹ Read before the Michigan State Medical Society, May 12th, 1893.

² "Tuberculosis of the Female Generative Organs," Johns Hopkins Hospital Reports, vol. iii., Nos. 1, 2, and 3, 1892.

frequency with which the disease is met with in females may practically be said to have been settled by the results as reported by Williams, it has been considered best to place upon record four cases of tubal and peritoneal tuberculosis, with the hope that their histories and the practical lessons they have taught the writer may prove of some value.

Osler's monograph¹ upon tubercular peritonitis, and that of Williams to which reference has been made, are so exhaustive, and present so well the existing knowledge upon the subject, that a review of the literature is rendered unnecessary. It will suffice, therefore, to present for your consideration three conclusions arrived at from a study of the reported cases, in conjunction with the perusal of the accessible literature upon the subject:

1. Tubal tuberculosis, either alone or with co-existing involvement of the peritoneum, is of far more frequent occurrence than is commonly supposed.

2. Early operative interference is indicated in the presence of either tubal or peritoneal tuberculosis, as a safeguard against the further extension of the disease.

3. All cases of tubal or peritoneal tuberculosis subjected to a laparotomy should be drained, and, whenever practicable, the iodoform gauze drain should be employed.

1. *Frequency of Tubal or Tubo-peritoneal Tuberculosis.*—Inasmuch as all four of the cases to be reported had both tubal and peritoneal tuberculosis, the consideration of the frequency of tubercular peritonitis alone will be purposely omitted.

Williams' statistics in regard to the frequency of genital tuberculosis are most interesting. He states that Edebohls met with "6 cases in 157 laparatomies for all causes, or 4 per cent; Martin, 9 cases in 287 operations, or 3 per cent; and in 137 laparatomies performed at the Johns Hopkins Hospital, a tubercular condition of the genitals was noted in 2 cases, or 1½ per cent." But this is very far from showing the true proportion of the cases affected, for, besides the 2 cases noted at the time of the operation, 5 cases of "unsuspected tuberculosis" were revealed by the microscopical examination of the specimens. Taking into consideration only those cases where the tubes and ovaries were removed for pathological lesions—91 cases—tuber-

¹ "Tubercular Peritonitis," Johns Hopkins Hospital Reports, vol. ii., No. 2, 1890

cular disease existed in 7.7 per cent. The same statistical method applied to Edebohls' cases shows tuberculosis present in 6 out of 62 cases, or 10 per cent, no cases of "unsuspected tuberculosis" being demonstrated. In summing up his conclusions the author says: "Whatever the proportion of 'unsuspected tuberculosis' in his material may be, his figures and ours at once raise the disease to a very important position from a pathological standpoint, and prove that it is of far more frequent occurrence than was ever suspected, and that it is deserving of practical attention on the part of gynecologists."

A review of the writer's cases is interesting in this connection. Out of a total of 40 laparatomies for all causes, 4, or 10 per cent, were found to have genital and peritoneal tuberculosis. Considering only the 33 cases which were operated upon for chronic disease of the appendages, tuberculosis was present in 12 per cent, a greater proportion than in either Williams' or Edebohls' cases. While the actual number of cases is not large, the relative proportion is surprisingly so, and forced upon the operator's mind the conviction that the disease was far more prevalent than he, at least, had been led to believe.

It is to be regretted that all the specimens removed were not subjected to as thorough an examination as were those at the Johns Hopkins Hospital, for undoubtedly such an examination would have revealed cases of "unsuspected tuberculosis."

2. *Early Operative Interference Indicated.*—The danger of the extension of a local tubercular affection either of the appendages or peritoneum is conceded to be considerable. It is estimated that in from 30 to 40 per cent of cases of tubercular peritonitis in the female there is an accompanying affection of the appendages. From their anatomical position the tubes are particularly exposed to the dangers of secondary infection, and this is borne out by the fact that the fimbriated extremities in nearly all instances are the first affected. Hence it is obvious that early operative interference is especially indicated in the first stage of tubercular peritonitis, and it is here that the best results are obtained. Osler, in speaking of the benefit to be derived from the operative measures in tubercular peritonitis, says: "Undoubtedly the cases of the first group, those with fresh eruption and considerable effusion, whether free or sacculated, offer the best chance of recovery, as the disease is more likely to be primary in the peritoneum, the general condition is

usually better, and the subsequent chances of general infection are much slighter. When the Fallopian tubes are extensively diseased, and when the process has extended through the diaphragm to the pleura, the condition is of course less favorable." The diagnosis is often very obscure and often impossible to be arrived at definitely. If, then, the best results are to be obtained, an early exploratory operation should be made in the presence of obscure abdominal symptoms and a tubercular family history. Such an operation is comparatively safe, and a postponement of surgical interference may mean secondary infection of the appendages and a poorer chance of the patient's recovery.

The accumulative evidence of the past ten years leaves no doubt as to the efficacy of the treatment of tubercular peritonitis by laparotomy and drainage. Whether the beneficial effects of the operation be through the drying of the peritoneal cavity by means of thorough drainage, as claimed by some, or through the exposure of the tubercles to direct sunlight, as claimed by others, are questions which cannot be answered definitely at the present time. Whatever may be the reason, the fact remains the same, that tuberculosis of the peritoneum shows a tendency to decrease, and even cease, after a laparotomy and drainage. In the presence of these facts the surgeon's duty is clear. Open the abdomen and drain, making use of irrigation or not, according to circumstances.

The treatment of tubercular disease of the appendages will evidently vary according to whether they alone are affected or whether the peritoneum is also the seat of the disease. If the latter be the case, while the diseased appendages should be removed if possible, the patient's strength may have become so impaired by the peritoneal condition that it may be found inadvisable to subject her to the additional shock attendant upon the removal of densely adherent tubes and ovaries. Under these circumstances the treatment should be limited to the tubercular peritonitis, with the hope that the general condition will be improved so as to allow of a subsequent enucleation of the appendages. Edebohls¹ mentions a case where such a course was pursued and the appendages subsequently removed with good result.

¹ "Tubal and Peritoneal Tuberculosis," Transactions of the American Gynecological Society, 1891.

In dealing with the cases where the tubercular process is limited to the appendages, the statistics quoted above are of great import to the gynecologist. If, as it would seem, there is such great liability of chronic disease of the appendages being tubercular, with the well-known difficulties of diagnosis in the absence of tuberculosis elsewhere, the indications for the removal of such organs are greatly increased. This possibility of the presence of "unsuspected tuberculosis" should be given careful consideration when the advisability of the removal of tubes and ovaries, long the seat of disease, is under discussion. A tubercular family history may be the one factor which would make us decide in favor of radical measures and against palliative treatment. The impossibility of determining the presence of tuberculosis of the appendages by gross appearances is well illustrated by Williams' reported cases, and this factor should have great weight, in the presence of a marked tubercular tendency, in determining at the operation upon the advisability of the removal of a diseased organ. With the possibility of the existence of such a fatal disease as tuberculosis, there is a liability, under some circumstances, of the attempt at saving an appendage being carried too far and the patient's life unnecessarily exposed to the subsequent dangers of general tuberculosis.

Senn¹ states that "a catarrhal condition of the mucous membrane lining the tube, as in other organs, undoubtedly furnishes, in many instances, the *locus minoris resistentiæ* for the localization of bacilli brought to the part through the circulating blood." This would seem to offer further proof why, in some cases where a decided constitutional tendency toward tuberculosis exists, the so-called conservative treatment of diseased appendages by means of the hot-water douche, glycerin tampon, and electricity should be pursued with clear ideas existing in regard to the danger of the advent of general tuberculosis. While every effort should be made to save rather than sacrifice organs, a keen and just discrimination should be exercised in the selection of the cases where the conservative treatment will be attended by the least risks, and, wherever indicated, radical measures should be promptly undertaken.

3. *The Advantages of the Iodoform Gauze Drain after a Laparotomy for Tubal or Peritoneal Tuberculosis.*—In the class of

¹ "Principles of Surgery," p. 538.

cases under consideration iodoform gauze possesses many advantages over the glass drainage tube. Where tubercular peritonitis with effusion is treated by means of laparotomy, the greatest benefit is derived from the extraction of large quantities of fluid from the abdominal cavity, and, by keeping the peritoneum as dry as possible, affording the poorest soil for the growth of the tubercles. This is best accomplished by means of the gauze drain, for the reason that it removes far more fluid in a given time than does the glass tube. The reason is apparent if we consider that the gauze, packed into the posterior cul-de-sac, presents far more and a better surface for drainage than does the tube. Both are soon shut off from the general peritoneal cavity by adhesions, but the track of the tube is smaller and affords a much narrower avenue for the escape of the fluid. Wherever, other things being equal, there is imperfect drainage after a laparotomy, there will be found more or less increase of temperature. As a rule the temperatures where gauze is used are much lower and would indicate that the drainage is better. If necessary, the gauze drain can be supplanted later by the tube, and drainage continued for a longer time than if the tube had been used first.

The best results would seem to have followed the use of aseptic rather than antiseptic fluids for washing out the abdominal cavity, yet the temptation is great, in the presence of tubercles, to make use of some germicide. The dusting of the tubercle-studded peritoneum with iodoform powder is practised by some, but is open to the objection that the amount of powder which will be absorbed cannot be estimated and poisoning might result. In the use of the iodoform gauze we have a better, though hardly an ideal, method of treating the tubercles directly.

This is especially the case where the appendages are the seat of tubercular disease, either alone or with the involvement of the adjacent portions of the peritoneum. Here the gauze drain is seen at its best. It withdraws large quantities of fluid, acts directly upon the tubercles remaining behind in the pelvis, and prevents the caseous material which it has been found impossible to remove from coming into contact with the uncontaminated intestine. All these are distinctly advantageous and go far to offset the principal disadvantage of the gauze drain—namely, the longer convalescence necessitated by the gradual healing of the granulating surface left after the removal of the gauze. However, this and the greater danger of subsequent hernia should

have but little weight against the benefits to be derived from its use.

The diagnosis of tubercular disease of the appendages and peritoneum was readily made in each of the following four cases by the macroscopical appearances.

In two cases (1 and 3) the diagnosis was confirmed by a microscopical examination. None of the cases can be placed in the category of "unsuspected tuberculosis," as the diagnosis was made in each case at the time of the operation. While the additional proofs of tubercular disease afforded by the demonstration of the tubercle bacilli were not sought for, the gross appearances of the two cases (2 and 4) not examined microscopically were such as to leave no doubt as to the correctness of the diagnosis.

CASE I. *Tuberculosis of Appendages; Caseous Degeneration of Omentum and Intestinal Wall; Operation; Death on third day from Exhaustion.*—R. B., colored, age 21, single, a servant by occupation, entered the gynecological service of St. Mark's Hospital April 14th, 1892. She had always been well up to last fall, when she contracted gonorrhœa. Has never been free from a purulent discharge since that time, and has had constant and steadily increasing pain through both groins, but has never been compelled to give up work until two weeks before entrance. Has had considerable fever and occasional chills, and has lost much flesh. No satisfactory family history could be obtained.

The examination at entrance showed a hard, irregular, sensitive mass filling up the entire right pelvis. The uterus was pushed to the left and only slightly movable. The left tube and ovary could not be mapped out because of the extreme sensitiveness. Diagnosis, pyosalpinx.

The patient was kept under observation for about two weeks after entrance, and an endeavor made to build up the general health before the enucleation of the appendages was attempted. During this time the temperature fluctuated between 98.4° and 102°. A slight cough without expectoration existed, but an examination of the lungs failed to reveal any consolidation. The appetite remained poor and vomiting was a troublesome symptom.

April 19th, 1892, the abdomen was opened in the median line, and the greatly thickened and caseous omentum was found closely adherent to the abdominal wall and intestines. The con-

tents of the pelvis were matted together and united to the intestines by dense adhesions. The thickened right tube was found rolled up under the broad ligament. The latter was much softened, and the caseous material extended even to the outer wall of the pelvis. The right ovary was enlarged to nearly twice the natural size and presented all the evidences of chronic inflammation. The left tube and ovary were very much enlarged, and the lumen of the tube contained thick pus. Small miliary tubercles could be seen scattered over the surface of both tubes. Both appendages and as much as possible of the caseous right broad ligament were removed. In attempting to separate the softened omentum from the intestine the wall of the latter was penetrated, rendering an excision of nearly two inches of the gut necessary. This procedure prolonged the operation, and the patient was removed from the operating table in a poor condition. The pelvis was packed with iodoform gauze and drainage secured through the lower portion of the incision. Every attempt was made to rally the patient, but, although by stimulation she was kept alive for three days, reaction failed to set in and death followed.

At the autopsy a purulent bronchitis with double adhesive pleurisy was found. No signs of peritonitis existed, and the excised ends of the gut had firmly united. A microscopical examination of the specimens showed tubercular salpingitis and ovaritis.

It is impossible to determine in this case whether the primary inflammatory process was produced by the tubercle bacilli or the gonococci, although the history would point strongly toward the latter as the probable cause and that the tubercle bacilli were deposited subsequently in organs already weakened by disease. The patient's lack of intelligence rendered a complete history impossible, else important testimony in regard to the pulmonary complication might have been obtained. There is every reason to believe that an earlier operation, before the advent of what was evidently the beginning of a general tuberculosis, would have been the means of saving the patient's life.

CASE II. *Miliary Tuberculosis of Peritoneum, Tubes, and Ovaries; Exploratory Laparotomy; Recovery; Death some weeks later following Secondary Operation for Removal of the Appendages.*—Miss I., age 22, American, a servant by occupation, referred by Dr. Walkley, of Grand Haven. The family history was nega-

tive. Patient has never been in good health since receiving a severe blow upon the abdomen four years ago. Has never had any pelvic trouble until after accident, since which time there has been steadily increasing pain in lower abdomen. Eleven weeks prior to admittance to the hospital the pain and tenderness increased and she noticed a hard "lump" in left ovarian region. Lately this has subsided and a hard, tender swelling has appeared upon right side. Has had considerable fever and a number of severe chills. Has had no cough, but has lost a great deal of flesh.

Patient was admitted with a temperature of 101° and a pulse of 110. Examination showed great emaciation. The right iliac region contained a hard mass extending downward into the pelvis. A vaginal examination showed the uterus pushed toward the left and but slightly movable. Hard, sensitive masses to be felt on either side of uterus. A diagnosis of double pyosalpinx was made and removal of the appendages advised.

Operation August 15th, 1892. The peritoneum was found greatly thickened and injected, and as soon as the abdomen was opened a considerable quantity of colorless fluid escaped. A loop of intestine presenting at the wound was seen to be thickly covered with miliary tubercles. The incision was enlarged and the intestines found to be adherent to each other and the abdominal wall. The miliary tubercles were thickly scattered over the parietal peritoneum, intestines, and the hard masses to the right and left of the uterus.

In view of the weak condition of the patient, it was decided to make the operation simply exploratory, as it was feared that the enucleation of the appendages in the presence of the dense adhesions would prove fatal. As the abdominal contents had not been disturbed, no irrigation or drainage was used. The incision was closed with silkworm-gut sutures and the usual dressing applied.

The beneficial effects of the operation were very marked until the stitches were removed upon the seventh day, the wound healing by first intention. The pain and fever disappeared after the operation, the appetite returned, and the patient became confident of her permanent recovery. The day following the removal of the stitches the temperature rose and tenderness along the line of incision became marked. A few days later a circumscribed, intraperitoneal abscess was opened through the abdominal wound and some ounces of foul-smell-

ing pus evacuated. The abscess cavity, which was four inches in depth, was thoroughly irrigated and packed with gauze. Five days later the patient, upon being told by her friends the nature of her trouble, became discouraged and insisted upon leaving the hospital. She was operated upon some weeks later for removal of the appendages by a physician who took charge of the case after she left the hospital, but survived the operation only a few hours.

While, on account of the extensive character of the disease, the ultimate result of this case would probably have been the same, added experience would now lead the writer to adopt a different method of procedure than the one selected. The patient's weak condition and the amount of disease present made it appear best to the operator and those present to make the operation simply exploratory, and therefore drainage was not instituted. This should have been done, with the hope of the peritonitis being so far mitigated as to allow of an enucleation of the appendages at a subsequent operation. While this result could hardly have been looked for, it would have been better surgery to have made the attempt.

One symptom was especially prominent in this case, namely, the intense thirst, which far exceeded that commonly met with after a laparotomy. Tait¹ calls attention to thirst after the opening of the peritoneal cavity as a sign that "some emphatic physiological change" is taking place. Greater and more inexplicable changes follow the opening of the peritoneal cavity for tubercular peritonitis than in other intra-abdominal disease subjected to the same treatment. The reason why, in the presence of the tubercles, this thirst, as an indicator of the physiological change, is greater, has never been thus far satisfactorily explained.

CASE III. *Miliary Tuberculosis of Peritoneum; Tubercular Pyosalpinx; Removal of Appendages; Recovery.*—Mrs. S., age 29, married four years, never pregnant. Family history negative. Began to menstruate at the age of 12 and was healthy until two years ago, when she had an ischio-rectal abscess, resulting in a fistula in ano which never healed. Nine weeks previous to her entrance to St. Mark's Hospital she became very ill and suffered greatly from severe pains in the lower portion of the abdomen. The pain was most severe in the right ova-

¹ Edinburgh Medical Journal, November and December, 1889.

rian region. Previous to entrance she was treated for three weeks for typhoid fever. Bowels obstinately constipated and appetite poor.

Not improving under the typhoid treatment, she consulted Dr. J. A. De Vore, who at once recognized the acute pelvic inflammation and kindly referred the case to the writer.

September 26th the patient was chloroformed and a thorough examination made. The entire pelvis was filled with a hard, irregular mass, in which the uterus was immovably fixed. Although no fluctuation could be made out, a diagnosis of pyosalpinx, probably tubercular in origin, was made, and a removal of the appendages advised.

At the operation on the following day, upon opening the peritoneal cavity the entire right pelvis was found to be filled with a fluctuating tumor the size of a cocoon, to which the omentum was closely adherent. After protecting the intestines with sponges the cyst was tapped and six ounces of foul-smelling pus evacuated. The cyst was rapidly separated from its adhesions and found to be the dilated right tube. The inflammatory process had attacked the broad ligament, and even the right wall of the pelvis, where, instead of normal tissue, there existed a softened, caseous mass. This it proved impossible to remove entirely, although a curette was employed for this purpose. In separating the dense adhesions binding the abscess to the posterior cul-de-sac a second pocket was opened, allowing the escape of a large quantity of pus into the general peritoneal cavity. The left tube and ovary, which were enlarged and thickened and closely adherent to the bowel, were removed. The abdomen was flooded with large quantities of sterilized water, and the pelvis packed with iodoform gauze after the method of Mikulicz. In this manner the intestines were prevented from coming in contact with the remains of the softened and caseous broad ligament. The walls of the abscess cavity were seen to be covered with small, whitish points, which a subsequent microscopical examination showed to be miliary tubercles. The same whitish points and presumably miliary tubercles were also observed scattered over the peritoneum.

The patient suffered very little from shock, and the temperature never rose beyond 100.2° . The gauze drainage proved most serviceable, the amount of fluid removed from the abdomen through its means being enormous. The inner packing

was removed on the fifth day and the remainder two days later. A large granulating cavity was left, which had nearly closed at the time the patient left the hospital four weeks later.

An examination of the patient made in April, 1893, shows her general condition to be excellent. She has gained twenty pounds in weight and shows no signs of any tubercular trouble. A small sinus, however, into which a probe may be passed two inches, remains at the lower border of the abdominal incision.

In this case a probable diagnosis of tubercular disease was made prior to the operation, because of the occurrence of two cases of tuberculosis within a comparatively short time, and because of the presence of the ischio-rectal abscess. Like the majority of cases where the appendages are tubercular and no deposits can be made out in the lungs, pleura, or peritoneum, a positive diagnosis was impossible until after the section. It is just in these cases that the frequency of tubercular disease should be borne in mind, and a laparotomy with removal of the appendages should be made rather than trust to the more palliative treatment of aspiration and drainage through the vagina. Had the latter course been pursued in this case the tubercular disease would not have been removed, and the danger of an extension of the process would have been great. This, therefore, is another and strong argument in favor of radical surgical procedure, whenever possible, in a certain class of cases of chronic disease of the appendages. Even if the tuberculosis does not exist, unless the diseased organs are removed, they may present the one weak point favorable to the subsequent deposit and growth of the tubercle bacilli. In speaking of tubercular disease of the Fallopian tubes Osler says: "The process is commonly confined to the distal ends, and may be primary—which is usual—or is secondary to the peritoneal involvement. Gynecologists now diagnose and remove dilated tubes with such facility that we have numerous opportunities of studying primary tuberculosis of these organs. I have frequently been impressed with the wisdom of this procedure as a protective measure, on seeing large caseous tubes with miliary nodules on the peritoneal surface, since the danger of general extension in such cases is great."

In the writer's opinion, the use of the glass drainage tube in this case would have been followed by a fatal result. Peritonitis would have resulted with almost a certainty, had not the

intestinal surfaces been prevented by the gauze from coming in contact with the caseous masses which it was impossible to remove.

CASE IV. *Tuberculosis of Right Tube and Ovary; Caseous Degeneration of Latter; Fistula opening into Rectum; Removal of Appendages; Recovery with resulting Fecal Fistula.*—Mrs. H., age 24, married three years, no children or miscarriages, was referred by Dr. J. A. De Vore. A marked tubercular history existed on the mother's side. Had enjoyed fairly good health until 14 years of age, when she had an attack of "inflammation of the bowels," from which she did not recover for two years. Menstruation has never been regular, sometimes no show appearing for months at a time. Five years ago chronic diarrhea with severe pelvic pain set in, and she was supposed to have consumption and given up to die; but after two years of suffering she began to mend, and had fairly good health until February, 1891, when she caught cold at the menstrual period and had an attack of pelvic inflammation which confined her to the bed for six or eight months. An abscess developed, which ruptured into the rectum and has never healed. For the past year she has steadily been losing flesh and strength.

An examination before entrance showed patient greatly emaciated. The left iliac region contained a hard tumor the size of a large orange. Another smaller mass was located in the right side. A vaginal examination showed the uterus immovably fixed in a mass of exudation filling up nearly the entire pelvis. No fluctuating point could be made out. Patient placed upon tonics and nutritious diet preparatory to a radical operation for removal of the appendages. The temperature fluctuated between 99° and 101°, and large quantities of pus were passed per rectum.

Examination, October 19th, showed a tumor in left iliac region, somewhat less sensitive and a trifle smaller because of large quantities of pus passed. At this time it extended upward in the abdomen as high as a line drawn from anterior superior spine of ilium to umbilicus, downward as far as Poupert's ligament, and inward as far as median line.

Laparotomy October 25th. Peritoneum much thickened. Entire pelvis filled with adherent intestines and omentum. Carefully separating these, a mass of caseous material was found under and apparently within the left broad ligament. This mass

was the size of the fist and apparently made up of the ovary and surrounding tissues and the fimbriated extremity of the tube. The uterine end of the tube was the only portion which could be identified, so extensive was the degenerative process. Upon some of the distinguishable portions of the tube and adjacent peritoneum were situated small miliary tubercles. The mass, made up of tube and ovary, was shelled out of its bed, and the caseous material found to have invaded the broad ligament at its outer extremity. It was impossible to remove all this tissue, for in some portions it was intimately adherent to the intestines and could not be detached without peeling away the serous coat. In removing the right tube and ovary, which were buried in a mass of adhesions, and to which the intestines were firmly adherent, an abscess cavity was opened, from which a small quantity of pus escaped. A fistulous opening into the rectum, two inches below the sigmoid flexure, was discovered. The edges of this opening were denuded and brought together by five silk sutures. The abdomen was thoroughly irrigated with sterilized water and the pelvis packed with iodoform gauze after the method of Mikulicz, great care being used to protect the uncontaminated portions of the peritoneum.

The patient was placed in bed in good condition and suffered very little from shock. The inner gauze was removed on the fourth day, and it was found that the edges of the fistula had failed to unite, as fecal matter appeared upon the dressings. The discharge was kept washed away with sterilized water and the outer gauze drain gradually removed. For a time it was doubtful whether the patient, owing to her exhausted condition, would survive, but by constant care she was carried along from day to day until reaction slowly set in.

The cavity left after the removal of the gauze, at the bottom of which was situated the opening into the intestine, filled in gradually with granulation tissue. There is now only an opening admitting the forefinger, and only occasional particles of fecal matter escape through the wound. The patient has gained thirty pounds, is entirely free from pain, and able to do light work. There is every prospect of the eventual closing of the fistula.

In this case there is a clear history of repeated attacks of pelvic peritonitis, a collection of pus within the pelvis, its rupture

into the rectum, and the discharge kept up by imperfect drainage of the abscess cavity. The deposit of tubercle bacilli in the diseased appendage followed, and tubercular peritonitis or general tuberculosis would have followed but for timely operative interference. It would lead one to question whether the deaths which result from long-standing cases may not in some instances be due to the establishment of tubercular disease, and the causes wrongly ascribed to exhaustion from long-continued suppuration. In view of these facts complete eradication of the diseased structures in this class of cases becomes imperative and palliative treatment should be condemned.

The iodoform-gauze drain in this, as in Case 3, undoubtedly was the means of preventing a general peritonitis. Had the patient escaped sepsis arising from the caseous material which was left behind, peritonitis would almost to a certainty have followed from the escape of fecal matter into the general peritoneal cavity, had not the latter been protected by the gauze.

THE GILBERT.

