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ACUTE PUERPERAL CELLULITIS
AND
TRUE PELVIC ABSCESS.

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It is my purpose in this communication to report my experience with acute puerperal cellulitis and true pelvic abscess, collecting together in one paper the various cases which I have reported from time to time. The time has now come when such a communication will be received in a proper spirit—that is, as a report of conditions carefully observed at the bedside, and therefore as a contribution to scientific medicine. The first whirl of excitement which followed the discovery of the real nature of chronic pelvic inflammatory troubles has passed by. Men are no longer blinded by the prejudices of the era when all pelvic inflammation was regarded as cellulitis. A sufficient time has now elapsed to enable them to recover from the reactionary wave, during the height of which it was believed that all pelvic inflammation was necessarily tubal in origin. Practitioners of medicine are very prone to be ruled by the dogmas of a few leaders in professional thought, and gynecologists are no exception to this rule. During two generations they gave implicit adherence to the dogma of Nonat, Churchill, and Emmet, and during the present generation no less implicit adherence to that of Tait and his disciples. It is now time to accept all the facts in the case, whether or not they agree with prevailing theories.

CASE I.—This patient I saw operated upon, May 8th, 1888, by Dr. D. Longaker, who gave me the following history: Mrs. F., aged 26, IIIpara. She was delivered of the third child seven weeks ago by a natural and easy labor. On the fifth day she had a chill, and chills and fever continued thereafter, also great pain. Dr. Longaker saw her seven weeks after labor, and operated for a clearly defined mass situated mostly in the left side of the pelvis, rising up above the brim of the pelvis and extending from the symphysis pubis to the iliac crest. An exploratory celiotomy showed that both uterine appendages were of normal size, but were somewhat fixed by recent adhe-

sions. "Neither right nor left ovary nor tube formed any part of the mass; these structures could be distinctly outlined apart from it." Fluctuation was distinct in the swelling, as made out by the intra-abdominal finger. A second incision was made above Poupart's ligament, and about half a pint of pus was discharged. The pus cavity was located in the left broad ligament, and extended between the uterus and bladder into the right broad ligament. The patient made a good recovery, but has borne no children since; this is probably because effectual means were taken thereafter to prevent conception.

CASE II.—This patient was seen at the Philadelphia Lying-in Charity during my service there as senior assistant physician. I am unable to find any published notes of the case. My recollection of its salient points is very clear and distinct. This patient was infected after labor, and after a number of days presented the usual evidences of suppuration, together with the signs of intense inflammation in the right side of the pelvis and in the right inguinal region. A hard mass of exudate formed in the right groin, which could be distinctly outlined by palpation. There was every evidence that this was a case of true pelvic abscess, but, influenced by the teaching that all pelvic suppuration is intraperitoneal, an abdominal section was made by Dr. Charles Meigs Wilson, assisted by myself. The uterine appendages were carefully examined, and it was evident that the pus accumulation was entirely distinct from them and that it was external to the peritoneum. The abdominal incision was closed and the pus let out by an incision made above Poupart's ligament near the anterior superior spine of the ilium. This patient made an uninterrupted and quick recovery.

CASE III.—This case I saw in consultation with Dr. Himmelwright, March 2d, 1890. The history, as given to me by Dr. Himmelwright, is as follows: The patient had a miscarriage, January 3d, in the second month of pregnancy. One week later symptoms of pelvic inflammation appeared, and a diagnosis of peritonitis was made. The patient got about by February 1st. After a week pain was felt in the right inguinal region, and gradually increased in intensity, extending to the lumbar region. After another week (February 15th) she was unable to walk erect and to put her foot firmly on the ground, but had to stoop forward. During this time the temperature remained normal and there were no chills. At times the pulse was slightly

accelerated. The pain continued to increase, and on February 27th a swelling was noticed in the right lumbar region. March 1st the temperature rose to 101° F. and the pulse to 120, and there were slight chills. March 2d I saw her. The temperature was normal, the pulse about 90. The right inguinal region was tender, suggesting, indeed, appendicitis, but there were no symptoms to warrant the supposition. A semi-fluctuant swelling was found in the right lumbar region. The next day this swelling had increased, and a hard mass was felt in the right inguinal region, extending as high as the ribs. The swelling in the lumbar region was opened, and two or three pints of pus escaped. Introducing my index finger, it passed around the ilium into the iliac fossa. A rubber drainage tube was introduced and irrigated daily with a dilute solution of peroxide of hydrogen. This discharge gradually decreased and the tract rapidly healed, closing from the bottom.

It may be asked, "Why do I claim this as a case of true pelvic abscess?" The abscess was undoubtedly situated in the false pelvis, on the right side. I had my finger in it. The entire absence of bowel symptoms excludes perityphlitis. The fact that, on examination, the uterus was found movable and the broad ligaments free from exudate (no fixation of the appendages), excludes pyosalpinx. Hence, I take it, the abscess was due to the breaking down of an infected pelvic gland situated behind the peritoneum, in the right iliac region.

CASE IV.—This case was in every way similar to the first. I saw the patient, in consultation with Dr. Langrehr, five weeks after labor.

The perineum had been torn and was sutured some hours after labor. Septic infection occurred, and for three weeks the temperature ranged between 100° F. and 103° F. During this time there was no pain or distention of the abdomen, or tenderness of the uterine appendages, on examination. The perineal wound became inflamed, however, and the stitches were removed. During the fourth week all the symptoms abated. At the beginning of the fifth week the fever increased and tenderness in the left inguinal region became marked. Purulent matter had been discharged per vaginam, but whether or not it came from the abscess which had formed was questionable. On examining the patient five weeks after labor I found her much depressed, in a typhoid condition, with a swelling above the

pubes and to the left. Under chloroform a mass of exudate was felt in the left broad ligament, extending between the uterus and the bladder, and plainly palpable above the pubes. My diagnosis was true pelvic abscess. I advised median section for an absolute exclusion of complicating pyosalpinx; then a second incision parallel with Poupart's ligament, to evacuate the abscess. This was done by Dr. Langrehr on the following day. The uterus, ovaries, and tubes were found healthy. The omentum was in places densely adherent. The abscess was situated within the broad ligament and extended upward behind and two inches above the ramus of the pubes. It contained about six ounces of thick pus, which was evacuated by an incision in the left inguinal region directly above Poupart's ligament. The ultimate recovery was perfect.¹

CASE V.—Mrs. G.,² aged 30, Ipara, was delivered, January 18th, 1893, of a living child, after a normal labor. The placenta was delivered by the introduction of the hand. The following day Mrs. G. had a temperature of 104° F. and was suffering much from pain in the right groin and from tympany. On the night of the 20th I saw her in consultation. The temperature was 103° F., the pulse 110, and there was marked tympany and much tenderness in the right groin. A striking feature in the case was that, although the bowels were very much distended, the abdominal wall itself was not very tense. The coils of distended bowels could be very plainly observed through the abdominal wall. The bowels had not been moved for four or five days. The patient was put upon quinine, strychnia, and digitalis, and the bowels were freely moved. Vaginal and intra-uterine douches of corrosive sublimate were employed, although the lochial flow was not foul-smelling. The patient's condition remained very much the same until the seventh day, when the right broad ligament became infiltrated, so much so as to be plainly palpable above the brim of the pelvis in the right groin, while from below the anterior and right quarter of the pelvis was filled with exudate closely attached to the pelvic wall and displacing the cervix backward into the hollow of the sacrum. This exudate began to disappear about the fourteenth day, and was absorbed very rapidly. Convalescence was further inter-

¹ The first four cases have been reported in the *Medical News* of August 29th, 1891.

² *Annals of Gynecology and Pediatrics*, June, 1893.

rupted by a nephritis, possibly of septic origin, and also by severe intestinal pain accompanied by diarrhea, presumably due to inflammation of the large bowel. This patient was seen in consultation by Drs. Goodell and Parish. She eventually made a good recovery.

CASE VI.—Mrs. H., aged 28, Ipara, was delivered of her second child in March, 1891, the labor being conducted by a midwife. She was infected and was extremely ill. I saw her with Dr. Leopold five weeks after the labor. At that time she was prostrated, with a rapid pulse, "leaky" skin, chills, irregular temperature—in fact, the classical symptoms of septic intoxication.

On examination the right broad ligament was found indurated and a mass of exudate extending on the right side of the abdomen almost as high as the umbilicus. From the extent of the *mass* it was supposed that a right pyosalpinx with an intraperitoneal abscess existed; but in view of the puerperal history and the existence of a cervical laceration, the possibility of a true pelvic abscess was discussed. A median abdominal incision was made April 16th, and the abdominal viscera in the lower right quarter of the abdomen were found fused by adhesions. The patient took ether so badly, becoming cyanosed while still partly conscious, and the pulse was so weak, that I and the gentlemen present were convinced that to attempt the separation of the adhesions and the evacuation of the pus from above would result in her death on the table from ether. An unsuccessful attempt was made to reach the pus by an incision made near the anterior superior spine of the ilium without giving more ether. The exploration was not pushed, owing to the patient's bad condition. The patient was then put to bed, and improved for some days. Operation was again proposed, and chloroform selected as the anesthetic, which produced as much cyanosis as ether had done. An incision was now made directly over the broad ligament, the uterus was located, and the index finger was forced into the broad ligament, evacuating several ounces of pus. With rubber drainage a satisfactory convalescence followed.

October 27th, 1892, I operated on Mrs. H. to cure a ventral hernia which had formed at the site of the third incision. On opening the abdomen I was surprised to find that the adhesions throughout the right side of the abdomen, which had been uni-

versal eighteen months before, had disappeared, except a point of adhesion between the omentum and hernial sac, and another between the omentum and broad ligament. Both appendages were perfectly healthy. This fact demonstrates what was believed when the pus was evacuated—namely, that it was not a pyosalpinx, but an abscess of the broad ligament.

The disappearance of the very extensive adhesions in this case is worthy of record as showing that peritoneal adhesions are not necessarily permanent.

It is of interest to report that during the summer of 1893 this patient was delivered of a living child after a normal labor, and that she is at present in good health.¹

CASE VII.—Mrs. F., aged 18, was confined May 8th, 1893. She had a mild puerperal sepsis and was in bed for two weeks. The following month she was constantly sick, being in and out of bed, suffering with pelvic pain, anorexia, and having more or less fever. (The temperature and pulse I do not know, as I was not in attendance.) She came under my care six weeks after her confinement, and was admitted to the Kensington Hospital for Women. Examination showed a large inflammatory mass in the pelvis, absolutely anchored to the left pelvic wall. She was under observation for two weeks, with the temperature fluctuating between 99° and 102° F., with the general evidences of mild septic absorption, such as anorexia, sweats, chilly sensations, and increased pulse rate.

Believing that pus was present in the pelvis, either in the form of a true pelvic abscess or a pyosalpinx, an abdominal section was made on June 26th, 1893. The following conditions were found: The uterus was fairly well involuted, and was displaced upward and backward by a mass in the left broad ligament. The right broad ligament and the right Fallopian tube and ovary were entirely normal, as was demonstrated not only by touch, but by delivering the ovary and tube through the abdominal incision. The omentum was adherent to the anterior face and upper border of the left broad ligament in front of the Fallopian tube. This adhesion was separated. The left ovary and tube were found to be entirely normal, the mesosalpinx being normal, soft, and movable. This was demonstrated not only by touch but by vision, the woman being in the Trendelenburg posture, so that the entire left side of the pelvis was in

¹ Reported in *Annals of Gynecology and Pediatrics*, June, 1893.

plain view. The left broad ligament was very much infiltrated with inflammatory material, and firmly anchored to the anterior and left bony wall of the pelvis. Fluctuation was not apparent. It was determined to close the abdomen, and, if septic symptoms persisted, to open the broad ligament from below. That portion of the omentum which was adherent to the broad ligament was ligated and cut off. A small gauze drain was placed against the broad ligament where the omentum had been separated, so that should pus make its appearance at this point it would find its way out through the abdominal incision.

The patient's convalescence was uninterrupted; the temperature rapidly dropped to the normal, and her general condition steadily improved. The gauze drain was removed, good union of the abdominal incision was obtained, and the patient was discharged from the hospital at the end of four weeks. In the meantime not only had her general condition very much improved, but the pelvic mass had almost disappeared.

This patient consulted me January 9th, 1894, to ascertain the cause of a suppression of menstruation of three months. I found her to be between three and four months pregnant. A careful examination of the left broad ligament failed to discover any evidence of the former cellulitis, the left broad ligament feeling exactly like the right one.

The evidence of the existence of acute puerperal cellulitis as a primary condition in this case is absolute. There was not even a complicating pelvic peritonitis, in the ordinary sense of that term, merely a point of adhesion between the omentum and the broad ligament, which was, of course, due to a small, circumscribed area of peritonitis. I was able to demonstrate these conditions to a number of physicians who were present, including among others Dr. Fullerton, of the Woman's Hospital.

What I wish especially to insist upon is that in this case neither Fallopian tube was involved in the inflammatory process, that both were entirely normal. The left Fallopian tube and its mesentery were scarcely even congested. The circumscribed area of peritonitis where the omentum was adherent to the broad ligament was plainly due to the fact that the inflammation had extended directly through the broad ligament to the peritoneum, leading to the adhesion of the omentum. That this is possible has been denied by those who maintain that all pelvic inflammation is due to infection which has spread through

the Fallopian tubes. In this case the conditions present were unmistakable.

We thus have seven cases, in all of which, except the third and fifth, an abdominal section was made, so that we have the evidence not only of the usual physical examination, but also that obtained from an intraperitoneal examination. In Cases 1, 2, 4, and 7 the abdomen was opened and the uterine appendages were examined, and it was demonstrated that they were either free from disease, or, at the most, lightly attached by recent adhesions. In these four cases there is not a shadow of doubt that the disease was in the broad ligament, and that it spread to the broad ligament directly from the uterus or vagina by way of the lymphatics.

Case 6 was undoubtedly not a case of pyosalpinx, and I have no question myself that the pus was located in the broad ligament. A carping critic might affirm that, even although it was not a pus tube, the pus was intra- and not extraperitoneal, and that it was due to suppurative peritonitis. My opinion that the pus was in the broad ligament is based upon the fact that the pelvic exudate was anchored to the anterior and right pelvic walls, and that when I cut down upon the mass I recognized the uterus and tore through the broad ligament with my finger in front of the Fallopian tube.

The evidence in Cases 3 and 5 is not so absolute as in the others, and they are included in this list, not for the sake of *demonstrating* the occurrence of puerperal cellulitis, as is done by the other cases, but because of their relative bearing upon the subject.

The foregoing cases demonstrate several interesting facts with reference to obstetrics and gynecology :

1. That in the puerperal state pelvic cellulitis and true pelvic abscess occur as the result of septic inflammation.

2. That inflammation may spread from the vagina or uterus along the pelvic lymphatics to the broad ligaments without involving the Fallopian tubes.

3. That peritonitis can be set up by the spread of inflammation from the broad ligaments to the peritoneum without involvement of the Fallopian tubes.

4. That very extensive pelvic exudate and intraperitoneal adhesions can be absorbed.

It hardly seems worth while to bring evidence to bear in

support of our first proposition, and it would not be called for, were it not that a few men of wide experience maintain the contrary. Being able to present absolute evidence in the shape of carefully and thoroughly observed cases occurring in my own practice, I shall not take the time or trouble to make references to the literature.

What I have said concerning proposition 1 is equally true of proposition 2, which is distinctly proven by certain of the foregoing cases. Case 7 is a beautiful illustration of the fact that a very extensive puerperal cellulitis can be present and yet the Fallopian tubes be entirely healthy. In this case they were scarcely, if at all, congested, and the mesosalpinx was entirely free from infiltration.

The third proposition is likewise proven, especially by Cases 7 and 4. In both of these cases the omentum was adherent to the broad ligament, although the tubes were free from disease. I have no doubt that pelvic peritonitis is usually due to the spread of inflammation from the endometrium through the Fallopian tubes to the peritoneum, but these cases show that this rule is not without exceptions. Numerous other exceptions have come under my observation. For instance, a short time ago I did a hysterectomy for a fibroid tumor, in which the tumor, being impacted in the pelvis, was adherent to the rectum and posterior pelvic wall, over an area of at least nine square inches, and yet in that case the Fallopian tubes were entirely normal. In several cases of appendicitis I have found the peritonitis to extend to the pelvis, the Fallopian tubes having nothing to do with its occurrence. Moreover, it is a well-known fact that when small tumors, especially dermoids, become wedged in the pelvis or become twisted upon their pedicles, peritonitis ensues; likewise, that in cases of malignant disease of the abdominal or pelvic organs adhesions are almost always present. Therefore it must be admitted that pelvic peritonitis can occur independently of salpingitis.

Case 6 demonstrates our fourth proposition. In that case the entire right lower quarter of the abdomen was fused together by recent peritoneal exudate, and light adhesions had formed in the left half of the pelvis; yet, eighteen months later, when the abdomen was reopened, the entire mass of adhesions had been absorbed, with the exception of a small point between the omentum and right broad ligament and another small point between

the omentum and the hernial sac. Owing to the very extensive character of the adhesions in this case, it is a striking example of the fact that recent adhesions can be entirely absorbed.

Two women of the seven whose cases have been detailed in this report have been delivered of living children since their recovery from the attack of acute puerperal pelvic cellulitis. The subsequent history of four of the other five women is unknown to me. The fact that two of these women have borne children is of interest, because of its bearing upon the question of the relation of pelvic exudates to sterility. As this paper has dealt only with demonstrated facts, I shall merely suggest that the occurrence of pregnancy after the existence of extensive exudates forming during the puerperal state, is best explained in many cases by the fact that the condition present is a puerperal cellulitis rather than a diseased tube. It is a severe tax upon my credulity to accept the statement that extensively diseased tubes, more especially pus tubes, can so far recover as to permit the occurrence of pregnancy, and I believe that the true explanation in not a few cases of pregnancy following the recovery from puerperal pelvic inflammation is that the disease was originally in the broad ligament and not in the Fallopian tube.

In conclusion, I wish to say a few words concerning the relative frequency of acute puerperal cellulitis and inflammation of the Fallopian tubes. I believe as firmly as any one that pelvic cellulitis and true pelvic abscess are comparatively rare conditions, and that the usual variety of pelvic inflammation is a salpingo-peritonitis. I have not met with pelvic cellulitis except in the puerperal state, and have no reason to believe that it occurs except as a result of infected wounds of the vagina and perineum. As such conditions are very infrequent, a pelvic cellulitis in the non-puerperal state would be a surgical curiosity.

I have added these remarks lest it might be inferred by the unthinking that I am desirous of supporting the old and abandoned theory of Nonat and Emmet concerning pelvic inflammation. At the same time I am glad to be able to present incontestable proofs of the occasional occurrence of acute puerperal pelvic cellulitis and true pelvic abscess.

