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peritonitis in the female xxx

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PERITONITIS IN THE FEMALE—ITS CAUSES, EFFECTS, AND TREATMENT BOTH PROPHYLACTIC AND IMMEDIATE.[1]

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THAT peritonitis occurs much more frequently in the female than in the male is a fact well recognized by the most ordinary practitioner of medicine. Peritonitis in the male always portends evil, either as indicating some cause that has arisen suddenly, or the existence of an organic lesion of long standing within the peritoneal cavity. Whether it be from traumatism or secondary to organic disease, our anxiety as to the result is very material and is justified by the clinical results. We are so familiar with peritonitis in women that, unless it becomes very general and severe, we feel comparatively safe, and expect a large majority to recover, with more or less perfect return to health. So great is the difference as to results in the two sexes that, without entering into statistics, I think

[1] Read before the Maine Medical Association, June, 1890.

it may fairly be said that, as a general rule, peritonitis in the male is fatal, while in the female the reverse is true.

Accepting this as a base for argument, it follows that there must be some radical difference in the causes operating to produce the disease. Traumatism is much more frequently a cause among males, for obvious reasons. Injuries arising from severe manual labor, gunshot wounds, stabs, blows, exposure to cold, etc., are of far more frequent occurrence among men than women. Beyond these comes peritonitis as a complication arising secondarily to organic disease of the liver, spleen, or other abdominal organs.

Unquestionably the most potent cause of fatal peritonitis in the male is that arising from concretions or foreign bodies in the appendix vermiformis. I think this much less frequent in the female. Within the past few years I have, with many others in the profession, been very much interested in observing the reports of this class of cases, particularly as bearing on the causes of peritonitis in the two sexes. I am sure one will become convinced, by a careful examination of the current literature, that by far the larger number of cases of perityphlitis from appendicitis will be found in the male.

Homans has recently reported twenty-six cases—twenty males, six females. Dr. Worcester, of Waltham, reports eight operations for perforating appendicitis, all males. These are reports in only a single journal. The other American journals bear about the same testimony, while the English medical literature is not essentially different.

Another quite significant fact in this connection is, the cases occur generally in comparatively young and vigorous males, many even in children. The average age in Homans' cases was thirty-two, only one case as old as fifty. So far as I know, no writer has attempted to explain this peculiarity, or to show why males should be more subject to appendicitis.

The causes which produce peritonitis in the female are, to a great extent, widely different from those producing it in the male. While we occasionally find it due to traumatism and appendicitis, a much larger percentage is due to differences in the anatomical arrangement of the pelvic organs. From the vagina we have a direct canal leading to the peritoneal cavity, and through this may enter the septic material

which is constantly accumulating at some point along the track; a simple vaginitis may extend along the endometrium and involve the Fallopian tubes. The specific form is particularly liable to do this, and we therefore find the most destructive results occurring with or after a gonorrhea. Even years after the acute effects of this disease are passed there is left a septic condition which may be awakened into active and severe inflammation, with the resulting pyo-salpinx, closure of the tubes, and adhesions about the uterine appendages.

Ordinary inflammation of the endometrium, if not immediately dangerous, may leave a state of chronic passive congestion from which slight exciting causes, such as colds, the introduction of instruments, coition, violent exercise or jars, cold-water injections—especially where any is thrown into the uterus (as may happen if the os and canal be patulous)—may easily develop a new acute attack.

Abortions are a most fruitful cause of some of the most violent and fatal cases of suppurative peritonitis. From the period of puberty many girls, through ignorance or carelessness, acquire a congested condition of the endometrium from which they never recover, and at every menstrual period suffer more or less from acute attacks of inflammation that involve not only the uterine cavity, but extend along the tubes into the peritoneum, each time leaving exudate which binds everything together in a solid mass. Dysmenorrhea, menorrhagia, and leucorrhea follow for the rest of life, unless relieved by heroic measures. The uterine cavity, from this long-continued passive congestion, becomes the seat of granular degeneration or fungous growths, which of themselves become sources of sepsis.

In one of the most elaborate and exhaustive articles on peritonitis recently published, Jacobi, of New York, writes as follows:

"Among the most frequent causes of peritonitis are catarrhal and inflammatory diseases of the female sexual organs. Besides the opportunities of menstruation, there is no more frequent mischief than that originating in the sexual function. Cohabitation is sometimes, the puerperal state very often, the cause of persistent peritonitis. The most frequent cause of peritonitis is a preceding peritonitis. When a case is exam-

ined after death, the most positive proofs are found of one or more attacks preceding the fatal one. If this is not the proximate cause of death, at all events the main cause may be set down to have been a previous attack.

"*I do not remember a case of perityphlitis but what exhibited* the adhesions and contractions due to a former peritonitis; frequently the vermiform process was attached to the side or posterior to the colon, the tissues of the intestines were thickened, the parietal peritoneum whitish and thickened, and the orifice patent. It is probable that *few if any* foreign bodies enter the process, unless the latter have previously lost its elasticity and contractility by an inflammatory change."

The close proximity of the Fallopian tube of the right side and the appendix vermiformis renders the latter organ extremely liable to become involved in a peritonitis extending from the tube, and the general and local symptoms are so nearly like those of appendicitis and typhlitis arising from perforation that, unless this element of tubal cause be recognized, frequent mistakes in diagnosis and treatment will be made.

Dr. J. Blake White, of New York, reported a case before the New York Obstetrical Society, October 15th, 1889, where all the symptoms of obstruction were present, vomiting, pain, etc., with a well-marked tumor which could be felt per vaginam and rectum—in fact, everything that pointed to abscess in the right iliac fossa as a result of perforating appendicitis. Post-mortem examination showed a pyo-salpinx and abscess of vermiform appendix in one mass. In the discussion which followed this paper, the president, Dr. Hanks, says: "In women, I believe, in the vast majority of cases of this kind, the cause is in the region of the tube or ovary." My own experience fully justifies this view of the case. Of course, when peritonitis is established in the pelvis it may not limit itself to the fossa and become circumscribed, but go on and involve the general peritoneum, diffusing pus throughout the entire cavity in one mass, or, to use Dr. Wylie's language, in "puddles" here and there.

The following cases from my own practice will illustrate the principles thus far discussed.

Case I.—Mrs. M., age 28, residing in a neighboring town, had, six weeks before I saw her (in consultation), miscarried as a result of criminal abortion. Septic peritonitis followed, and at the time of my visit the abdomen was filled with fluid

which I believed to be pus. An abdominal section was advised and assented to by the friends, when at least fifteen pounds of pus were taken out. The pelvic organs were massed together, and each Fallopian tube was as large as my index finger and solid from the inflammatory exudate. Both tubes and ovaries were removed, the parts thoroughly washed and drainage established, and for a time everything progressed well; but after two weeks she died from the exhaustion consequent on the extensive suppuration. The attending physician said the abdomen had been full of pus for at least four weeks before I saw her. The constitutional symptoms of rigors, sweating, had been well marked during this time, and although she seemed almost at death's door when I operated, yet she rallied for many days after removal of this mass of pus and exudate (which I removed in immense flakes).

In this case there is no doubt the exciting cause came from the uterus through the tubes.

Case II.—Mrs. M., age 49, had suffered from uterine fibroid (submucous) for several years. Had repeated severe hemorrhages, for which she consulted a Boston physician (homeopathic), who advised and performed curetting, without ether and without any assistance. To use her own language, "He nearly murdered me," and left her without any special directions as to after-treatment. After six weeks of severe peritonitis she was brought to Maine, where I saw her in consultation and diagnosed a suppurative condition behind the uterus. Her extremely feeble state contra-indicated any operative interference, especially as the tumor was quite large, and she finally died. Post-mortem revealed an abscess behind the uterus containing a quart of pus, and the tumor much reduced in size. I feel sure that the curetting, perhaps with unclean instruments, and the shock to the nerve centres from the non-administration of an anesthetic, were the cause of endometritis and subsequent peritonitis, which extended through the tubes.

Case III. *Criminal Abortion.*—Post-mortem showed both tubes suppurative, very much thickened by exudate, pelvic cavity filled with pus, and "puddles" of pus in various parts of abdominal cavity; intestines glued together in a mass, peritoneum gray and very thick.

These are illustrative cases of general peritonitis, some of which produced large quantities of pus in the general cavity, others showing pools of pus in different localities. In all of these and many others within my own experience, the whole history of the case pointed unmistakably to the uterus and tubes as the source of the septic influence.

The following cases show a localized peritonitis simulating perityphlitis from the usual cause in males, viz., appendicitis.

Case IV.—Miss B., age 34, when about 17, at boarding school, was attacked with what was called, at the time, perityphlitis. It came on from exposure to cold and wet at menstrual period. The attack lasted two or three weeks, and from her account was severe, with high fever and much suffering. From that time her menstrual periods were always painful, and for the last few years excessive in quantity and frequency, with a profuse leucorrhea at intervals between. She also suffered from premenstrual pains, especially in the region of the right Fallopian tube. She rarely made any difference in her habits during menstruation. The result was that exposure to cold, dancing, and excitement necessarily induced a chronic passive congestion which easily lighted up into inflammation of more or less severity. About the last of August of the past season, while at the mountains, she was taken with severe chill, followed by high temperature and severe pain in right iliac fossa. I saw her in consultation four days after the attack, and agreed with the attending physician that it was a case of perityphlitis, but, from the history of the case, in my opinion not due to appendicitis, but to septic influence coming from the Fallopian tube, which by extension had involved the appendix and cecum. Acute obstruction of the bowels existed, and temperature ranged from 102½° to 104° each day. We stopped opiates as much as possible, and began the use of small doses of Seidlitz powders, as frequently repeated as the vomiting would allow, while at the same time enemata of various kinds were kept up. I could feel a tumor per vaginam and rectum, but did not feel justified in operating. At the end of the ninth day, by the use of the long rectal tube, I succeeded in getting an enema of oil and glycerin to remain, and on the tenth day a movement containing fecal matter was induced. On the eleventh day full discharges

were obtained and the case was practically convalescent. Within a few days the abscess gradually disappeared, and she regained her general condition as before the attack. Two months later I dilated and curetted the uterus, scraping away quite a quantity of fungous growth, and applied pure carbolic acid, with a drain of iodoform gauze for two days. Since that she has greatly improved, flowing but four days and suffering very little. The leucorrhea—which was of a most ichorous character, producing intense smarting, itching, and soreness of the vagina—is small in quantity and non-irritating. She has an ovary of the left side as large as an orange, also enlarged tube of same side. I feel very sure that had a lateral laparatomy been made in this case her chance for life would have been much less.

Case V.—Mrs. D., age 29, mother of one child eight years old, one miscarriage since, never very well afterwards; subject to pain in right side, occasionally extending down inside of thigh of that side; menstrual periods irregular, flow at times profuse and occurring twice a month, again going six or seven weeks; leucorrhea following menstruation. In October last had a long, dragging, painful menstruation; left her with pain in right iliac region. In November was in Boston during period, and kept busy shopping by day and at theatre at night. In the course of a week rode about a thousand miles by rail in addition. On returning home was obliged to go to bed on account of exhaustion. She recovered so as to be about, but on the 9th of December was taken with a severe attack of localized peritonitis, which the physician diagnosed as peri-typhlitis. At the end of a week, finding high temperature continuing and obstruction of bowels, I was telegraphed for to go prepared to make laparatomy. The attending physician had been persistent in the use of enemata of salines and oil, using as little opiate as possible, and small doses of salines by mouth, so that when I arrived (a distance of four hundred miles), two days after the telegram was received, the patient had had two good movements and was out of all danger.

The previous history in this case was much like the former, and I have no doubt the peritonitis originated in the same way.

I advised curetting in this case before the next period,

which was done, and I learn that she has been much better this winter than for a long time before. Menstruation regular and normal.

Case VI.—Mrs. R., age 36, one child 12 years old; never pregnant afterwards. Shortly before her marriage had an attack of pelvic peritonitis, beginning at a menstrual period; ill for several weeks; never felt quite right in right side after that. In September last began to have pain in right iliac fossa, which extended down inside of right leg, so much so as to compel her to draw it up when in bed. That continued all winter until the 1st of March, when she went to Boston for a week's shopping and visiting. Saturday afternoon while in the theatre was seized with a chill and pain in abdomen, with nausea. She got some temporary relief, but was feverish Sunday and Monday, when she returned to Maine via Portland, and on Tuesday drove sixteen miles by carriage over the rough country roads. Had another chill Tuesday night and local pain in right side. Temperature 102°; pain increased in severity, so as to require one-half grain of morphine every four hours to keep her at all comfortable. On Friday the attending physician discovered, as he thought, a tumor from the outside, in the right iliac region, and telegraphed me to come prepared to operate for perityphlitis. Not being at home Friday evening, he telegraphed again on Saturday morning, but I did not arrive home until Saturday noon, and, supposing he had called some one else, did not go. Saturday evening he sent a man for me. I went out Sunday morning and found a well-marked pyo-salpinx as large as a good-sized orange. The parts about the cecum also had a hard, board-like feeling. No movement since Wednesday; vomiting at intervals; temperature 102½°. The slightest pressure over the iliac fossa gave intense pain, so that it was difficult to make deep pressure from the outside. The history of the case led me to believe that the Fallopian tube was the seat of original trouble, and I decided not to operate. I ordered saline cathartics in small doses frequently repeated, and a concentrated solution of Epsom salts (two to three of water and one of glycerin) by rectum. During the following night copious watery discharges were obtained, and the next day the pain abated, temperature declined to 100°, and she im-

proved in all respects. On the following Wednesday I saw her again, and found the tumor very much diminished, and her recovery has since rapidly followed. The serous portions of the pus have been absorbed, and the rest will undergo caseous degeneration and absorption. I feel sure that laparatomy would have been unwise at that time. Five weeks later I made laparatomy, and found the right ovary the seat of abscess, containing a pint of pus. It ruptured in handling, but with the tube of the same side was removed, and she made a perfect recovery.

In all of the last three cases the physical signs and constitutional symptoms pointed as strongly to perityphlitis as in any case of localized peritonitis in this region in the male. They illustrate a large class of such cases in the female, and if carefully diagnosticated are, I believe, better treated by medical than by surgical means. After the acute symptoms have passed, adhesions may be left, matting the tubes and ovaries together, destroying their function and causing suffering, in many cases, which can be relieved only by laparatomy. The danger, however, is then much decreased if laparatomy be found necessary.

There is still another class of cases of peritonitis, coming from the same cause, not producing pus, but oftentimes very extensive adhesions and continuous suffering. This is principally confined to the pelvic organs, although it not infrequently becomes quite general and the intestines are adherent, not only to themselves but to the pelvic and abdominal walls. Where it is limited to the pelvic peritoneum, we often find displacement of the uterus and uterine appendages, the whole massed together and the adhesions very strong and abundant. In the last three cases where I have operated for the removal of the uterine appendages, it was with a great deal of difficulty I could detach the parts, and the organs were practically changed in all respects by the repeated attacks of inflammation. In many of these cases it would be difficult to recognize the masses removed as ovaries or tubes, so much destruction had taken place. Sometimes a cirrhotic condition exists, the ovary being extremely small and hard, and the tube impervious. In one instance the function of menstruation was entirely suspended, having grown less and

less for months before, while the woman was comparatively young, not more than 35. Such cases become the chronic invalids, enduring for years the most painful dysmenorrhea, with pelvic neuralgia, severe pains running down the inside of the thigh of one or both sides. I can now recall as many as four cases where one leg was practically useless. One in particular, who had not walked for fifteen years, recovered in three months after an operation, so that she was able to walk quite a distance unaided.

Of all the forms of peritonitis, this last class (the non-suppurative) is by far the most common and the least amenable to treatment by ordinary means. That the cause is the same as in the other classes, viz., sepsis from the uterus through and involving the Fallopian tube, I have no doubt. To show that I am not alone in this belief, I quote the following recent authorities:

Henning states that at least "three-fourths of the post-mortem examinations on women show inflammatory disease of the Fallopian tubes." Winckel found two hundred and five in five hundred post-mortems. Among American writers, Thomas, Polk, Hanks, Wylie, Dudley, and others report almost numberless cases. Waldo, in a paper read before the New York Obstetrical Society, November 19th, 1889, says "at least one-half of the post-mortem examinations on women show inflammatory disease of the Fallopian tubes."

They all agree that the cause comes from disturbances arising in the uterus. Bandl states that pyo-salpinx may be developed in two different ways: "First, a chronic process causes a hydrops tubæ, which is changed to pus by an acute attack of inflammation. Secondly, it can be *rapidly* produced by an acute process. A catarrhal secretion in a tube is easily changed to pus by infection from a simple examination, more especially from an intra-uterine, when strict antisepsis is not resorted to."

"The indiscriminate use of the sound is probably the cause of a great deal of pyo-salpinx."

DIAGNOSIS.

The chief points of diagnosis have appeared in the discussion thus far, but a glance at the differential diagnosis between the cases in the female that simulate true perityphlitis (from per-

foration either of the appendix vermiformis or cecum) may be interesting, for here is where the principal difficulty arises.

Within the past five years I have carefully collected and read the cases of appendicitis that have been reported in the various journals that have come under my observation, and watched with much interest the clinical features of the cases that have occurred in my own and others' experience, and one of the most striking and significant facts gathered from this observation and experience is the *remarkably low temperature* in a very large majority of the cases of peritonitis arising from the sepsis coming from the intestinal canal. While inflammation is always the same process, so far as the production of exudate is concerned, yet the degree of fever and disposition of the products of inflammation seem to depend upon the cause that originated the inflammation. That the poison coming from the intestinal canal is much more virulent and depressing to the nerve centres than that from the uterus will, I think, be apparent. It is a well-known pathological fact that purulent results arise from the most depressing causes, even though unattended with high temperature. In reports of cases of perforating appendicitis by Treves, MacDougal, and other European writers, it is a very rare thing to find temperature rising above 101°. MacDougal says he has "almost never seen an exception to this rule." Homans in his report of twenty-six cases gives but one where the temperature rose to 103°. Many of his cases did not reach above 100°, and one (a very severe case) was subnormal in temperature (97°). In a case to which I was called at the end of a week and made laparatomy, and found in the central line an abscess containing a pint of stinking pus, with perforation of the appendix, puddles of pus in various localities, and gangrene of several feet of the intestines, the temperature never rose above 100°.

On the other hand, as a rule, in all similar cases in females arising from the Fallopian tube the temperature is generally high, rarely falling below 102° during the acute process, and often reaching 104°. In this respect, therefore, we find a marked difference, which will aid materially in our diagnosis. Another prominent clinical feature is the suddenness and violence of the attack, with no premonitory symptoms, in cases of appendicitis. The patient may even be awakened from sleep

with pain which literally doubles her up, accompanied with violent retching and vomiting, which is often spasmodic.

In the tubal cases there is generally a history of more or less discomfort and pain for days before, and not infrequently the attack is at or near a menstrual period.

These symptoms, together with the testimony offered by vaginal examination, will become important evidence in making a correct diagnosis.

TREATMENT.

This may be in part inferred from the discussion of the illustrative cases given above.

I believe much is to be done in the way of prophylaxis in women suffering from any of the conditions alluded to. Acute attacks of endometritis that may or not involve the tubes are almost sure to leave a state of chronic passive congestion, from which we get menorrhagia, leucorrhea, and granular degeneration of the mucous membrane. Dysmenorrhea, pain in the iliac fossa of one or both sides, are among the significant symptoms that should call the attention of the gynecologist to the danger that may arise when exciting causes are present. Such cases should be well dilated, curetted carefully, washed out with hot water or sublimate solution 1 to 2,000, and the cavity thoroughly touched with pure carbolic acid. I like this better than any other remedy. Of late I have dilated after applying the acid, and then introduced a slip of iodoform gauze to the fundus uteri, allowing it to hang out into the vagina. I keep this in position for two days, in order to thoroughly drain the uterus and deplete the lining membrane of the tubes. If this be thoroughly and carefully done, I believe we may prevent many of these women from suffering the acute attack from which they otherwise would be in constant danger. In none of these cases should trachelorrhaphy be done at the time of curetting. Even if necessary where an attack of peritonitis has actually begun, I think the first and most important therapeutical resource is free catharsis from salines, preceded sometimes by the calomel triturates if the stomach be irritable. If these fail to act promptly I supplement by an enema of a concentrated solution of Epsom salts. I find the following formula very effective:

Magnes. sulph ..... ℥ ij.
Boiling water..... ℥ iij.
Glycerin ..... ℥ i.

It acts very promptly and thoroughly, stimulating the entire intestinal canal, producing profuse watery discharges, and rapidly reducing temperature and relieving pain. Opiates should be withheld, unless the pain is intolerable. The enema alone often completely aborts the attack. Where the peritonitis becomes general and the signs of pus are manifest, I believe laparatomy, in the median line so that the entire cavity can be well irrigated, is imperatively required. Wylie has advised and practised making both a median incision and a lateral one, so that he could remove any pus that may have formed in the iliac fossa.

In the second class of cases, where the abscess is circumscribed in and about the Fallopian tube, I am sure that we will have much better results by treating the case medically, and allowing nature to dispose of the pus and exudate in the best way it can. If after a reasonable time, when all acute symptoms have subsided, the pus tube or ovary remains, I should advise removal.

In the third class, where peritonitis does not go on to suppuration, or, if it does, is absorbed afterwards, but results in adhesions, with severe and continuous suffering, complicated by marked impairment of function of the genital organs, much may be done early to modify the character of the adhesions and relieve the congestion of the pelvic vessels. A systematic course of local depletion by cathartics, leeching, glycerin, and pressure by tampons of wool, frequently repeated, will do much in this direction. In the later stages the use of iodized phenol to the vaginal roof and around the uterus, alternating with the large douches, may aid in promoting absorption; but a large proportion of this class will continue to suffer, and the process will be repeated again and again until all efforts to cure in this way are of no avail and our only remedy lies in removal of these offending organs. Then, and only then, will nature begin to assert itself and life begin to be worth the living. Time is necessary to change the perverted nutrition of the pelvis, and to cure the painful nerves which have been subjected so long to pressure.