

Jones (Mary A. D.)

REMOVAL
OF THE
UTERINE APPENDAGES

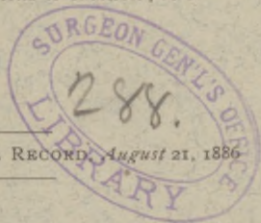
NINE CONSECUTIVE CASES

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MARY A. DIXON JONES, M.D.

GYNECOLOGIST TO WOMAN'S HOSPITAL OF BROOKLYN, N. Y.

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ERRATA.

Read menstruation *for* menstrual, page 1, 6th line.

Omit terms, page 1, 6th line.

Feeble *for* full, page 1, 12th line.

Depth *for* width, page 1, 15th line.

Madame Boivin *for* McBurney, page 27, 8th line.

Version *for* fusion, page 29, 14th line.

Help *for* helps, page 29, 5th line of note.

Ovaries *for* organs, page 30, 20th line.

Read mothers' daughters *for* mothers, daughters, page 31,
20th line.

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CASE I. *Fibromyomata; chronic salpingitis; enlarged and cystic ovaries.*—Y. D—, aged thirty-five; married thirteen years; two children, youngest seven years of age; no miscarriages. Menstruation commenced at the age of thirteen; menorrhagia. When eighteen years of age, menstrual more frequent, lasting longer terms, and accompanied with pain; sometimes only one week in the four was free from the flow. Her general health began to suffer, for which she was given various tonics.

I was called to see the patient March, 1885. She was then very anæmic, weak, and prostrated, and there was mental depression; pulse full, and a temperature varying from 99° to $99\frac{1}{2}^{\circ}$ F. On examination I found two sub-peritoneal uterine fibroids; uterus measured four inches in width, and its hard, irregular surface left no doubt that there were intramural growths. The cervix was lacerated, perineum ruptured, and the uterus had a tendency to



sink down into the lower part of the pelvis, thereby interfering, to some extent, with the functions of the rectum and bladder.

This condition of the uterus, with the accompanying hemorrhages, was no doubt the cause of her suffering and ill-health, and though fibromyomata may be regarded by some as harmless and seldom fatal,¹ yet the complications in this case would certainly lead to some disastrous result.² Her cachectic appearance and the low grade of constitutional disturbance suggested the possibility of some inflammatory action, or even the possibility of carcinomatous or sarcomatous degeneration.³

But whatever were the conditions of the patient, she must be relieved if possible. Her system seemed now on the limits of its capability of endurance, the tumors were evidently increasing in size, and might at any time cause dangerous pressure or fatal hemorrhage. The question was, what was best to be done. Should we commence using ergot, with the vague hope of somehow having good results? Would the sub-serous tumors and the interstitial fibroids be favorably affected thereby? Could we be justified in placing her for months under the influence of ergot, risking the dangers of abscesses and ergotism? Would she live to stand the long and uncertain experiment? And were we not equally uncertain of any good result?⁴

Should we try the various "sorbefacients," iodides,

¹ "Relatively few of them are fatal" (Pepper's System of Medicine, vol. iv.).

² "Fatal results by no means infrequent" (Meadows, Brit. Gyn. Journal).

³ "Uterine myoma is fatal in a much larger number of instances than is generally supposed" (Tait, Brit. Gyn. Journal). "The growing tumors create exhausting hemorrhages, mental depression and anxiety, and disturbance of the functions of nutrition and excretion, which usually drag the patient down to the grave" (Thomas, p. 533).

⁴ "I have had several instances under observation where the tumor of a simple fibroid rapidly underwent the metamorphosis into sarcoma" (Emmet, p. 545). "The weighty authority of Virchow is cast into the scale favoring the possibility of sarcomatous degeneration" (Thomas).

"Much harm has resulted from the injurious use of ergot" (Emmet). Thomas says he has known many fatal cases of sloughing when the rigidly contracted os prevented a resort to surgical procedures. "The moment the treatment ceases the hemorrhages come back as violently as ever" (Lawson Tait).

bromides, and chlorides, which are said to have the power of removing these neoplasms?¹ I could not believe this would be of the least efficacy, and their long-continued use would only derange an already enfeebled stomach, and still more impoverish an already impoverished system.

Should we try electrolysis, piercing the tumors with long electrolytic needles? Such a proceeding in this case would be attended with grave and unusual dangers.² Should we remove the sub-serous tumors, according to Schroeder's method of partial hysterectomy? The operation is extremely dangerous, and, even if successful, there would still be the interstitial fibroids, which probably were making most of the trouble. Enucleation and traction have had brilliant results in the hands of two of our eminent American gynecologists, yet, with our present advance in surgery and improved methods of operating, hysterectomy seemed less appalling and less hazardous, and would more fully meet all the indications in this case.³

¹ "It is not possible by therapeutical means to obtain a sensible diminution in the volume of a real fibrous tumor" (Scanzoni). "We have never obtained any sensible results from the internal exhibition of iodine" (Scanzoni). "Medical treatment is worse than useless, it is a mere waste of time; I would say, scarcely honest" (Meadows, Brit. Gyn. Journal). "I very much fear that no remedy exists that will exert any influence on the growth of these tumors, or cause their absorption" (West and Duncan). "We know of no means wheteby they can be made to disappear short of a surgical operation" (Hewitt, op. cit., p. 569). "No such effect can be looked for with any confidence" (Thomas). "We are to-day ignorant of any means, other than extirpation, by which a hard fibroid can be removed from the uterine tissue" (Emmet, op. cit., p. 566). "I have never seen a single instance, nor an approach to one" (Tait, May 27, 1885). "The medical treatment of uterine fibroma is a myth" (Lawson Tait).

² "I have seen several deaths occur from it in this city" (Emmet). "The profession has not generally consented to the adoption of this measure as safe and efficacious" (Pepper's System of Medicine, p. 270, vol. iv.).

³ "The results of enucleation (interstitial fibroids) are by no means encouraging. We class the operation among the most hazardous in surgery" (Diseases of Women, West and Duncan). "It really deserves, as far as I am concerned, the appellation of the word butchery" (Lawson Tait, Brit. Gyn. Journal). Emmet says: "In this city alone three deaths have occurred from perforation by the hand of three different operators when dexterity could not be questioned" (op. cit., p. 607). Dr. More Madden, before the British Gynecological Society, speaks of the "*less heroic measures*, such as enucleation and removal by traction," and says: "I think the operation of enucleation, which is really a very simple operation, and which has been very successful in my practice, is preferable in suitable cases. By this operation I have removed not only large submucous fibro-myomas, but also interstitial, and in some instances partly sub-serous, tumors." One case he reports:

There was left for consideration either hysterectomy or removal of the uterine appendages. In the present state of the patient, a necessity for the former operation would be unfortunate, and the uterine appendages were so diseased that *their* removal was a necessity.

I decided to do either hysterectomy or Tait's operation, as would be best for the patient. May 19, 1885, the patient was received into my private hospital, and on May 23d I performed the latter, assisted by Dr. C. C. Lee, Dr. C. N. Jones, Dr. S. King, and Dr. J. C. Minard. The condition of the uterus was well examined, and it was deemed advisable to remove only the appendages. There was considerable difficulty in securing a pedicle. The ovaries were three times their normal size, and projecting from each one was a cyst the size of a hen's egg. It seemed almost a question whether we were operating for cystic ovaries or for a fibroma.

The patient slept well the night after the operation; next day took some nourishment; sixth day ate solid food with relish. Temperature, $98\frac{3}{4}^{\circ}$; pulse, 70. Eighth day, stitches removed; abdominal wound entirely healed. On the twenty-fifth day after the operation she was discharged from the hospital well, and walked four blocks that morning without any discomfort. She has continued to grow strong, and has been in excellent health ever

"Uterus retroflexed, hollow of the sacrum occupied by a large globular interstitial tumor, as large as a fetal head at the seventh month." The uterine cavity was laid open and the uncertain instruments were plunged in, pulling forth the tumor. "A large coil of intestines followed," as if to know whether he so unkindly knocked or no. The instruments were in the peritoneal cavity! Not able to see what was the injury, how to repair it, or how to clean the cavity. The patient was in collapse, but fortunately recovered. The second case he reports: "Uterus completely retroverted, a considerable-sized tumor was found bulging into the uterine cavity. The most prominent portion of the tumor was firmly grasped by the vulsellum and forcibly dragged down through the os, and as far as possible into the vagina; and the growth was thus cut away. In this way we had removed more than two-thirds of the growth when the patient became collapsed. On the second night after the operation she again became collapsed, sank and died." As I see it, a carefully and well-arranged hysterectomy is less dangerous, and gives a more intelligent chance of saving life. About the time of my operation, or just before, I had the pleasure of witnessing Dr. C. C. Lee perform hysterectomy, at the New York Woman's Hospital, for an immense cystic fibroid of the uterus. The operation progressed pleasantly, and the patient made an excellent recovery

since, has gained in flesh, is active and vigorous, and says she has not been as comfortable or as well since she was a girl. The size of the tumors are gradually diminishing.

Macroscopical examination: The tubes are long and tortuous, the ovaries are enormously enlarged, and on their surface exhibit numerous cicatrices. On section the structure is dense and fibrous, and enclosing numerous cyst cavities.

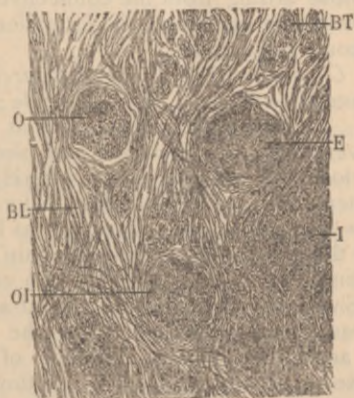


FIG. 1.—Sub-acute Ovaritis. B L, Longitudinal bundles of dense fibrous connective tissue; B T, transverse bundles of such cicatricial tissue; I, groups of inflammatory corpuscles of recent date (acute inflammation); O, ovum, coarsely granular; E, ovum split up into epithelia; O I, ovum split up into epithelia and inflammatory corpuscles. $\times 500$.

Microscopical examination: ¹ Both ovaries are in a state of chronic ovaritis. All the special ovarian tissue is replaced by dense fibrous connective tissue, coarse fibres interlacing. The left ovary in its cortical portion exhibits nests of inflammatory corpuscles, which shows

¹ The microscopical examinations were made in Dr. Heitzman's laboratory, part of them by Dr. Mary D. Jones and part by Dr. C. N. D. Jones.

that the morbid process in portions of the ovary is sub-acute. In the cortical substance of the ovary are still left a few small ova, and it is interesting to trace out under the microscope the manner in which the ova are destroyed. We could also see groups of epithelia, when an ovum had been split up into its constitutional elements; still other groups gave a cluster of partly epithelial and partly inflammatory corpuscles, which latter had arisen from the epithelia. Such inflammatory corpuscles mixed with those arising from the connective tissue and the smooth muscle-fibres, showed the formation of cicatricial fibrous connective tissue.

CASE II. *Chronic ovaritis; encysted sarcoma of left ovary; salpingitis.*—Miss L. M.—, single; thirty-five years of age. Menstruation commenced at the age of thirteen; severe pain the first time, and she has never passed a period since without great suffering, the pain always commencing three or four days before the flow. The flow now lasts four or five days, not as long as formerly, nor is the flow as great, but the pain is constant and unremitting, so severe at times she can neither walk nor stand. She also states that her first attack of serious illness was fifteen years ago, when she was taken with a hard aching pain in the left side of the pelvis, which increased gradually year by year, oftentimes preventing her from sleeping, and frequently so sharp and lancinating that she had to scream with the agony. For this suffering she consulted many physicians, and had a great variety of treatment; some prescribed fly-blisters to be repeatedly placed over the lower part of the abdomen, and leeching at intervals; some used pessaries which she said “always made her worse;” for nine months she was treated for “inflammation and misplacement,” with no relief; a year she was treated for “ulceration,” no better results; for five years she was treated for “uterine congestion.” The next physician, after attending her for some time, said he could do nothing more, and relieved by hypodermatic injections of morphia.

Her last physician treated her for valvular disease of the heart ; said the uterus was misplaced and bound down by adhesions. He also attempted to introduce pessaries, which, as before, "gave great distress."

The patient first called to see me May 5, 1885. I found the uterus acutely anteflexed, not adherent, ovaries small, tender, and exceedingly sensitive. The patient was extremely nervous, hysterical, and her mental condition somewhat disturbed. Many of her friends said "she was not exactly right in her mind." But I considered all these abnormal nerve symptoms due to reflex irritation from the condition of the ovaries, and informed the patient that an operation for their removal might be necessary.

I did not see her again for more than a month, and on examination found the same conditions I had previously diagnosed. The patient informed me that she had made efforts to get into a hospital, but had not succeeded. First applied to the Homœopathic Hospital in New York, was examined by the visiting surgeon, but not admitted. Next applied to a hospital in Brooklyn ; after a consultation of the staff, she was informed that she was incurable, and the hospital did not receive "incurables." I told her I would admit her into my private hospital, give her any necessary treatment, and perform for her any operation that might be necessary for her recovery. The next day, June 18th, she entered. I had her immediately put in bed, kept quiet, good nourishment. Massage twice daily, bowels freely open, hot douches daily, and the skin kept active by warm baths and rubbings.

June 25, 1885, I performed laparotomy, assisted by Professor Wylie and Dr. C. N. D. Jones. Dr. S. King gave the ether ; the ovaries and tubes from each side were removed. The next day her temperature was 101° , pulse, 98. On the fifth day she asked for beefsteak and toast for breakfast, and on the eighth day the sutures were removed from the abdominal walls, when the wound

was found entirely healed, and on August 1st she was discharged from the hospital apparently well.



FIG. 2.—C, coarse fibrous connective tissue, with large blood-vessels; V, mainly venous in character; S, septum, or prolongation of connective tissue into a closed space filled with globular and angular corpuscles in rows. Between the rows there are fat-globules and empty slits. A, cellular elements.

Macroscopical appearance of specimens: Both tubes are dilated; the left at one portion is dilated into a sac

2 ctm. in diameter, and at the fimbriated extremity the lumen is obliterated by inflammation. Both ovaries are smaller than normal, and contain numerous small cysts.

Microscopical examination: Section from left ovary gave a rather startling appearance; there were numerous comparatively large alveoli, or closed places, filled with a tissue endothelial in nature; the alveoli were surrounded by and closed with coarse fibrous connective tissue, richly supplied with blood-vessels. This connective tissue penetrated the alveoli, remaining fibrous in character, and produced elevations which were surrounded by endothelial tissue. The boundary line between the connective tissue and the endothelium in most places was sharply marked, in other places the two tissues blended without any definite line of demarcation. The endothelial tissue consisted of globular and polyhedral corpuscles, mainly arranged in rows, and freely intermixed with dark brown fat- and pigment-globules. The rows of corpuscles are in many places interrupted by light gaps, probably caused by a liquefaction of these corpuscles. This tumor we would have to term either an endothelioma or an alveolar sarcoma.

Right ovary contains cysts filled with an albuminous liquid. The arteries of the medullary portion are tortuous in a high degree, and their middle coat in a marked waxy degeneration; the stroma everywhere is transformed into dense interlacing connective tissue, the result of chronic ovaritis.

Many persons thought the patient could not survive the operation; but since it was performed she has been constantly gaining in strength and vigor. She looks well, and her nerve conditions are improving. October 10, 1885, she called to see me, and said she had gone to church three times the previous Sunday—walking.

CASE II. *Chronic pelvic peritonitis; pyo-salpinx; ovaritis.*—H. J.—, a frail little woman, aged twenty-three years, weight seventy-five pounds, called to see me August 18, 1885. She has been married two years and

eight months. Menstruation appeared at the age of twelve; no pain at first, but soon after she had dysmenorrhoea, which gradually grew more and more severe, and the menstrual flow more profuse, continuing eight or nine days. A year after marriage she gave birth to a premature child, seven and one-half months, which lived only a few days. After childbirth she had a severe attack of septic peritonitis, which lasted eleven weeks, since which time she has not been able to go around, constantly in bed, says the slightest exertion prostrates her, that she "suffers constantly with pain and soreness in the pelvis; sharp piercing pains darting and shooting up through the rectum, not a day that she does not feel these piercing pains, frequently many times during the day; that for seven years she has suffered thus, had every thing put on to draw the inflammation out;" now, she says, "she is willing to go through anything for the sake of being well." Her temperature and pulse were $99\frac{1}{2}^{\circ}$ and 100 respectively.

I examined the pelvic organs, and found the cervix lacerated, excessive tenderness in the region of the ovaries, tubes enlarged and evidently fixed by firm adhesions.

At once, there seemed to be no other way of relieving her sufferings or curing her than by the removal of the uterine appendages. Still, while preparing her for the operation, I determined to see if treatment could not, according to the statement of some, cure her, and so supersede the necessity of an operation; for if anyone should be saved the dangers of an operation it was this frail, feeble little woman. One of our most distinguished gynecologists says some cases of tubal and ovarian disease can be cured by repeated applications of Churchill's tincture of iodine, hot douches, etc. I tried faithfully these, and, as I thought, all other recognized and approved means. The patient was in my private hospital, and everything was constantly done to improve her special and general condition. Her health grew better, and she seemed much improved in many respects, there was less peritoneal in-

flammation, the adhesions stretched and softened, yet, after all these three months of persistent and careful treatment, there seemed to be just as much soreness and tenderness about the ovaries, the tubes seemed to be even more enlarged and prominent, the darting pains just as severe and frequent, the movement of the bowels just as painful, and the patient no more able to be out of bed. There was now as much necessity for the operation as there was three months previously. Her life was in peril without it. The patient was anxious and impatient for it to be performed; many times when other patients were to undergo operations she would wish it was her; often said, "she wanted her ovaries taken out." October 29th we commenced to prepare her especially for the operation, and on the 31st it was performed. I made the usual incision of two and one-half inches, the abdominal walls bled freely, and there was great difficulty in getting out the appendages on account of strong adhesions. Both tubes were firmly adherent by their extremities, and throughout their whole extent to the ovaries, and were very much dilated and filled with fluid. Their transparent attenuated walls seemed ready to burst. The pedicle on each side was firmly secured, appendages removed, and the peritoneal cavity washed out, but there was so much, and such continued oozing that a drainage-tube was put in. At 9.30 same evening, temperature 101° , pulse 130; fifth day, temperature $99\frac{1}{2}^{\circ}$, pulse 100. The tube was repeatedly washed out and the dressings changed, considerable bloody serum oozed out. On sixth day glass tube was removed and a small rubber tube inserted in its place. Eighth day, sutures removed; the patient seemed well, temperature and pulse almost normal, appetite good, and she *relieved of the pain* from which she had long suffered, yet the fistulous tract did not heal; there continued to be a small sinus from which constantly issued a slight discharge.

One day, some two months after the operation, as I was pressing the sides of this fistulous canal to see the

quantity and nature of the discharge, there burst out a small white mass, which, upon examination, proved to be the ligature of one of the stumps—there was the Staffordshire knot exactly! The lower end of the drainage-tube had in some way become displaced toward the right side; probably in this way the ligature had become infected and was consequently expelled. Soon after the passage of this ligature the fistulous tract healed, and there was no further trouble.¹



FIG. 3.—Representation of the structures after they had laid in Chromic acid three months. O, ovary with deep cicatricial furrows; F, Fallopian tube with marked convolutions and cystic enlargements; FE, fimbriated extremity of the tube firmly attached to the ovary.

May 20, 1886, her husband writes that she is feeling splendidly; that he could not have imagined that she ever could be as well. May 30th, she wrote: "Doctor, you have given me my life, and what is more, an interest in life."

¹ Last October McBurney, of New York, performed the radical operation for hernia, using six silk ligatures; there remained two sinuses. On April 9th, in cutting down he found the ligatures had not been absorbed. March 26, 1886, Dr. C. N. D. Jones performed same operation for an enormous hernia. A small fistula remained. May 20th the wound was opened in the line of the old cicatrix and the unabsorbed ligature removed, after which the wound healed rapidly.

Microscopical section of the left ovary revealed the presence of rather dense fibrous connective tissue, interlaced with small bundles of smooth muscle-fibres; follicles scanty. Ovary has the appearance of senile involution (M. I.). Microscopical section from the right ovary exhibits acute inflammation, arteries dilated and extremely tortuous (C). The tubes were in a state of chronic pyo-salpingitis.



FIG. 4.

When we examine these structures we see how completely their physiological functions were destroyed. Even if we had aspirated the tubes, and so drawn off the pus, the ovaries were so diseased, the lining membrane of the tubes so changed, and there was such a desquamation of the epithelii, that there could not possibly have been any true functioning power. And the aspirating or opening and draining would have been as dangerous as the operation for removal, and there would still have been left the diseased structures to give trouble and distress, and be a cause of serious complications.

By this operation (Tait's) many cases can be restored to health who must otherwise suffer and die. I can now look back upon a practice of years, and remember many

whom I could have cured if I had known of this operation at the time.

CASE IV. *Chronic ovaritis; Abscess of left ovary; Pyo-salpingitis*—Mrs. D——, a delicate young woman, twenty-one years of age, married two years, no children; menstruation commenced at the age of thirteen, from the first it was accompanied with great pain, the pain commencing two or three days before the flow. After marriage dysmenorrhœa was much increased; she had an attack of gonorrhœa, which inflammation and infection extended through the tubes, causing inflammation so severe that she had to keep her bed the most of the time. When first seen by the writer she had been confined to her bed for some weeks, the whole pelvis was sore and tender, on each side of the uterus was a mass low down and extremely sensitive. In appearance the patient was small and imperfectly developed, there was no breadth or depth to the pelvis, and an apparent lack of vigor in every organ. She was removed to my private hospital, November 11, 1885, not able to sit up, had a quick, feeble pulse and a high temperature. She was placed immediately in bed, and had constant care day and night. By treatment the size of the mass was reduced, adhesions softened, and much of the sensitiveness relieved. The patient in every respect seemed in a very much better condition, had a good appetite, was able to be around, and was feeling comfortable. Some would have pronounced her "cured without an operation," but we knew the causes were still existing, ready to give trouble at any time.

The patient was very anxious that the diseased structures should be removed, though in some way she became fully impressed with the idea that she would not live. January 23, 1886, I performed the operation for the removal of the appendages, assisted by Dr. W. G. Wylie and Dr. C. N. D. Jones. Dr. Ingals administered the ether. The ovaries were large and adherent. Right ovary was first removed, it measured $2\frac{1}{2}$ inches; the left

one measured $3\frac{1}{8}$ inches. In lifting the left ovary an abscess in the ovary burst, discharging a thick, greenish-yellow pus, some of which escaped into the peritoneal cavity. The cavity was well washed out, but the continual oozing from the broken adhesions made it necessary to put in a drainage-tube. For a long time after being placed in bed the patient seemed to be in a condition of extreme surgical shock, which lasted some hours. Her external surface was cold and clammy. Two attendants continued rubbing her for more than an hour before reaction was fully established. Her pulse continued to go up, and by next morning it was 170 per minute, and soon grew so rapid that it could not be counted; temperature, $101\frac{1}{2}^{\circ}$. By 11 P.M. the day after the operation her pulse was again 170 per minute; temperature, $101\frac{1}{2}^{\circ}$. Tube was washed out. On third day at 8.30 A.M. her pulse was 160; temperature, $100\frac{1}{2}^{\circ}$. Pancreatized milk was given by the rectum. Fourth day—pulse, 120; temperature, $101\frac{3}{8}^{\circ}$. Nausea and vomiting still continued; at 9 A.M. vomited dark fluid; gave seidlitz powders; washed out the tube, no vomiting after. Up to this time she had taken ten seidlitz powders. They had produced no operation on the bowels, yet in some way they seemed to have the power of destroying or carrying off the microbes, and so preventing any septicæmia.¹ From this time the patient began to improve rapidly, and Saturday morning, a week after the operation, she looked brighter, better, and stronger than she had looked for months. Seventh day the glass drainage-tube was removed and a small rubber tube inserted in its place, which was removed at the end of another week, and before the end of the third week the opening was entirely closed and the wound healed. Twenty-second day after the operation the patient left the hospital, rode three miles to another part of the city, stepped lightly from the

¹ On the slightest indication of peritonitis after an ovariectomy we give a rapidly acting purgative, it matters not what (Tait, in *British Medical Journal*, May 15, 1836).

carriage, ran up high steps to the front door, then up a high flight of stairs to the second floor; said "she felt perfectly well; had not a pain or an ache." March 2, 1886, she wrote: "I am feeling perfectly well, never felt better in my life; have an excellent appetite, and am gaining in flesh."

The cause of suffering was removed, which, if allowed to remain, would doubtless have caused her death before many months.

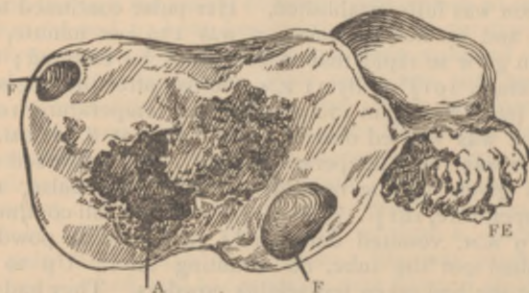


FIG. 5.—F, F, follicles; A, abscess cavity; FE, fimbriated extremity of Fallopian tube.

Macroscopical examination: Left ovary very much enlarged, upper surface exhibiting an opening with jagged edges, which led into a pus-cavity three centimetres in diameter, fimbriated extremity of Fallopian tube dilated into a pus-sack. A vertical section through the ovary exhibits two follicles, and in the centre an abscess cavity, with irregular walls. In its vicinity and toward the outer periphery the tissue is discolored, soft, and friable, indicative of beginning suppuration.

Microscopical examination: A section from the vicinity of the abscess exhibits a marked infiltration of the tissue with inflammatory corpuscles. Both the myxomatous and fibrous connective tissue are transformed into inflammatory corpuscles to a considerable extent. The smooth

muscle-fibres likewise are transformed into such corpuscles, and in many places rows of the corpuscles indicate their origin from smooth muscle-fibres. This transformation also invades the endothelium and the smooth muscle-fibres of the middle coat of the arteries, which near the apices appear to be completely destroyed. The cortical substance of the ovary not invaded by inflammation is of a marked myxomatous character.

The right ovary is in a condition of sub-acute inflammation. Portions of the medullary substance being transformed into dense fibrous connective tissue, other portions are crowded with inflammatory corpuscles.

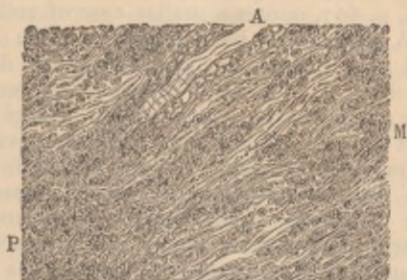


FIG. 6.—Suppurative ovaritis. M, rows of inflammatory corpuscles originating from smooth muscle-fibres; A, artery whose endothelial and muscle-coat toward the lower extremity is completely transformed into inflammatory corpuscles; P, beginning formation of an abscess. $\times 500$.

Left Fallopian tube exhibits a marked inflammation and infiltration both in the mucosa and in the muscle-tissue. Right Fallopian tube is in a state of acute inflammation, both in the mucosa and muscle-coat.

Comparatively few cases of abscess of the ovaries are reported. In Scanzoni's work, p. 398, is recorded a case of abscess of the ovary; woman died suddenly from rupture of abscess into the peritoneal cavity. Emmet, in the last edition of his work, p. 651, says: "I have

seen but one instance of this kind of ovary. A mass, the size of a hen's egg, was felt on left side. February 16th application of pure carbolic acid was made to the fundus daily by means of an applicator; 23d, sponge-tent introduced, canal dilated, granulations removed, and equal parts of carbolic acid and glycerine applied freely throughout the canal. March 25th, canal partially dilated to facilitate the application of carbolic acid. On 30th, when half awake, she turned suddenly in bed, when she felt something move inside of her, went into collapse, and died." From the autopsy, made five hours after death, the author says: "It was evident the ovary had long been the seat of an abscess."

Thomas, p. 667, quotes a similar case of collapse and death: "A blister had been applied on the hypogastrium, and opium given in large doses, five days after became collapsed and died. Autopsy eighteen hours after death; between the organs a great deal of puriform serum; left ovary size of hen's egg; in its removal several ounces of pus escaped. No evidence of cellulitis."

Lawson Tait says, in his work on "Diseases of the Ovaries": "Abscess of the ovaries is a condition of extreme rarity, and in the majority of instances probably death occurs from the rupture of the abscess into the peritoneum. The only cases of abscesses of the ovary, in clinical experience of which I have been certain, are two." First case, *op. cit.*, 61: "Left ovary contained two ounces of pus; both ovaries and tubes removed; patient recovered without a bad symptom." The second case, *op. cit.*, 125: "Patient had suffered many years with great ovarian pain; much increased at the menstrual period; the left ovary contained two drachms of pus and appeared to be on the point of bursting into the abdominal cavity. Had it done so she doubtless would have died. Both appendages were removed, and she made a perfect recovery."

In the same work he quotes two cases that were reported in *The Lancet*, 1877. "One had an exploratory

incision, patient died a few hours after ; the other had an exploratory puncture, symptoms grew worse, and she died some months after." Tait remarks, "It is impossible to resist the conclusion that abdominal section, performed soon after the onset of serious symptoms, would have enabled the surgeon to have relieved his patient."

July, 1885, before the British Gynecological Society, Lawson Tait reported two cases of double pyo-salpinx together with abscess of right ovary. "The lives of both patients had been for months in jeopardy ; the operations were of extreme difficulty ; abscesses bursted ; and very great care had to be taken in cleansing the peritoneum. The patients recovered" (*Brit. Gyn. Journal*).

April, 1886, Tait reports before the same society another case of abscess of the ovary : "Operation extremely difficult and the hemorrhage severe" (*Brit. Med. Journal*, May 8, 1886).

Edis reported before the same society a successful operation for abscess of ovary.

As far as I have seen the reports, the only patients with abscess of the ovaries who have recovered are those for whom Tait's operation was performed.

CASE V.—*Chronic ovaritis ; pyo-salpingitis*.—Miss A. Y—, a young woman, twenty years of age, has suffered with constant pain in the pelvis for seven years, greatly increased at the menstrual periods, and at times extremely severe. But the most serious consideration in her case was the unhappy and abnormal manifestations of the nervous system, depression of spirits, and at times the contemplation of suicide. All of which symptoms I believe were largely due to reflex irritation from the thoroughly diseased condition of the ovaries and tubes. When first called to see her I found on examination uterus completely retroflexed and retroverted, both ovaries enlarged, sensitive, and dislocated down into the recto-uterine cul-de-sac. I made known to her her condition and the necessity for an operation. She at once accepted the idea and was impatient for the operation to

be performed, frequently saying, "I want *both* ovaries and both tubes removed;" said that "for years she had suffered such distress and agonizing pain that she could stand it no longer."

She was by special and general treatment prepared for the operation. I removed the appendages from both sides of the uterus. She made an excellent recovery, and month by month she is growing stronger and more vigorous, her nervous system more and more normal, and she is enabled to enjoy life and attend to her ordinary duties.

Microscopical examination showed chronic ovaritis and pyo-salpingitis.

CASE VI. *Hystero-epilepsy; cirrhosis of the ovaries; salpingitis.*—Mrs. M. K——, aged thirty-six years. After the birth of the fourth child her health began to fail; great prostration, and suffering much with her back, constant pain and distress in the pelvis; and there was a history of gonorrhœal infection. The attacks of hystero-epilepsy were gradually growing more serious, her mind was becoming less active, and her perceptions more obtuse. Already her face had the dull, heavy expression of an epileptic. These epileptic attacks recurred at every monthly period; sometimes during the day she would have a continued succession of convulsions, with intervals of only a few minutes, struggling and throwing herself in all conceivable positions; frequently opisthotonus, and showing "le pied hysterique."

It was evident that these spasms or convulsions were caused by some internal irritation; and unless the cause was removed it was impossible for any medical treatment or appliances to help her, or prevent the recurrence of the spasms. Such cases usually tend to idiocy and death.

When I presented to her the hope of possibly relieving her by removing the diseased ovaries, she cordially accepted the idea, and on December 10, 1885, I performed the operation, in my private hospital, assisted by Dr. C. N. D. Jones. Dr. Cary gave the ether. Dr. J. L. Mi-

nard was present. The patient recovered well from the ether, and seemed scarcely sick during the whole convalescence from the operation; was up and around at the end of the second week. She has since done well in every respect, showing greatly improved nervous condition, and up to the present time, June 5th, has not had a return of the spasms, and the dull epileptic look is giving way to a more intelligent countenance.

Macroscopical examination: Ovaries small, hard, and nodular. When cut open they were markedly cirrhotic, composed entirely of coarse fibrous tissue, interlacing. Almost the whole gland-structure was replaced by cicatricial tissue. In the left ovary was seen the remains of only one follicle; in the right there were three, all of them located near the outer end of the ovary. The tubes were dilated into three cyst cavities and there were several small parovarian cysts.

Microscopical examination: Left ovary almost entirely transformed into dense fibrous connective tissue; no healthy gland-structure left. Right ovary, especially in its medullary portion shows, in some places, inflammatory infiltration, crowded with inflammatory corpuscles, while in other parts the ovarian tissue is transformed into dense fibrous connective tissue. The condition is sub-acute ovaritis. There is a marked dilatation and tortuosity of the blood-vessels, most of the arteries showing hyperplasia of the middle coat with marked waxy degeneration. The tubes are in a condition of well-pronounced salpingitis, both in the mucous and muscular portion. The tubal arteries show hyperplasia of the muscle-coat.

I conceive that nothing else would have relieved the spasms. No amount of bromides or massage—nothing but the removal of these diseased organs—organs which had organically changed in structure, which could no longer perform their functions, and hence were a source of irritation.

CASE VII. *Salpingitis; ovaritis.*—M. S—, twenty-six years of age; married six years; two children, the

youngest fifteen months old. She complained of great pain in her back, in her pelvis, and down her thighs, and so much bearing down, heaviness, and distress that she could not rest night or day; could not attend to her duties; was always tormented with this constant suffering. She had done everything to find relief. The cervix had been twice sewed up, the perineum had been restored, and lately the patient had spent seven months in a hospital, and the womb had been treated *ad nauseam*. Still her sufferings were just as great, as constant, and as continued. On examination I found the uterus completely retroverted, lips of the cervix gaping wide apart and covered with hard cicatricial tissue, the ovaries very tender and dislocated down into Douglas' cul-de-sac.

She entered my private hospital January 20, 1886. I sewed up the lacerated cervix for the third time, in hopes possibly of relieving some of her nervous symptoms, and as a little recreation to her while she should be prepared for the more serious operation. Such was her nervous excitability that she had to be chained by some thought. I informed her that this operation would not relieve the great distress, and eight days after she pretty clearly informed me of the same fact; but the operation was an entire success, the wayward walls of the cervix were brought into perfect and easy coaptation, and there they will stay, a specimen of good workmanship! Wound healed by first intention.

The operation for the removal of the appendages took place February 10th. Present, Dr. C. N. D. Jones and Dr. Ingalls. Before the operation the husband informed me that "the desire for a family was nothing compared to the distress of seeing her constantly suffer." I know the mild-mannered man had groaned under her tantrums, and felt that he could not live with her and her two ovaries, too. The appendages were removed from both sides. The ovaries were atrophied, and had evidently been the seat of long-standing inflammation. Third day after the operation the patient was singing, and said she

felt well enough to get up. As days passed on she perceived she was free from the old distress that had followed her for years. At the end of sixteen days she was discharged from the hospital, well.

I saw the patient May 6th. She was the picture of health; happy, cheerful, and active in her household duties; said she felt perfectly well, had no pain or distress.

Many suppose this operation renders a woman sterile, but we must bear in mind that she is already completely sterilized by disease. The operation takes away the cause of suffering, and enables the patient to lead a life of usefulness and activity, instead of suffering long years of invalidism.

Macroscopical examinations of specimens: Both tubes present an anomalous appearance. Each is bifid from the central portion outward, having two distinct sets of fimbriæ; the lumina of the twin tubes remain separate to the point at which they were severed from the uterus, and probably continued so until they communicated with the uterine cavity. The walls of the tube are much thickened, together with the meso-salpinx; in the latter there are numerous small cysts. The ovaries are small and atrophied. Nearly the whole portion of the left ovary is occupied by a large cyst.

Microscopical examination: Both ovaries are in a state of acute and subacute ovaritis, groups of inflammatory corpuscles mainly in the cortical portion. The arteries of the left ovary are in a state of waxy degeneration, and the stroma contains a large number of amylaceous corpuscles. Both tubes are in a state of acute salpingitis; both in the mucosa and muscle-coat there are groups of inflammatory corpuscles.

CASE VIII. *Salpingitis; ovaritis; ovarian hæmatoma.*—Miss L. S—, aged twenty-three, has been suffering with pain in the pelvis for the last five years, very much increased at the menstrual period. Menstruation commenced at the age of thirteen. She suffered agonies, not only during the period, but for three or four days be-

fore ; and for the last two years has been unable to attend to her ordinary duties.

She called to see me February 20th. On examination I found the uterus anteflexed and bound down by adhesions, and a large inflammatory mass low down on each side of the uterus. By treatment the conditions were very much ameliorated, and on March 27th she entered my private hospital, and on the 31st I performed the operation for removing the uterine appendages, assisted by Dr. C. N. D. Jones. Dr. Ingalls administered the ether. The abdominal walls bled profusely, and there was great difficulty in getting out the ovaries on account of dense and firm adhesions and extreme shortening of the broad ligament. She recovered nicely, with no drawback except unusual nausea and vomiting, probably due to chronic dyspepsia and an enlarged liver.

Macroscopical examination: The right ovary on one surface presents a ragged opening leading into a cavity three centimetres in diameter, which contains a large clot of blood, and is therefore the seat of a *hæmatoma sacatum*. The other portion is in a state of cystic degeneration.

In the left ovary there is *not the least vestige of normal ovarian tissue*, nor is there a single Graafian follicle, or normal corpus lutea; the whole is occupied by an infinite number of small cysts, the larger of which is about one centimetre in diameter.

In the right ovary, stroma transformed into fibrous connective tissue to some extent, other portions occupied by inflammatory corpuscles; sub-acute ovaritis; waxy degeneration of the arteries; corpora amylacea.

CASE IX. *Ovaritis; abscess of right ovary; chronic salpingitis; endo-arteritis (syphilitic?)*. — M. B—, twenty-four years of age, unmarried. Menstruated at fifteen; before the appearance of menstrualin was subject to attacks of dizziness. The last five years she has suffered with almost constant pain in the pelvis, very much increased at the menstrual periods, and for the last three years the intense pain has commenced a week be-

fore the flow, and continued during the period, being so sharp and severe that she has had to keep her bed lately most of the time.

She was sent February 10, 1886, by one of the consultants to the Woman's Hospital clinic. On examination I found the whole pelvis exceedingly tender, the slightest pressure from the outside causing pain; the uterus was acutely anteflexed and the appendages drawn up by adhesive inflammation. While in the Woman's Hospital she was treated, the uterus dilated, etc., but the menstrual pain continued just as severe, and her sufferings just as constant. April 3d she was admitted into my private hospital, and on the 6th I removed the uterine appendages. There was great difficulty in the operation, on account of many and firm adhesions, and during the operation an abscess in the right ovary burst. The peritoneum was carefully washed out and the patient made an excellent recovery, and is now relieved of that almost constant pain and suffering which was exhausting her strength and making an invalid of an otherwise healthy woman.

Macroscopical examination: The ovaries and tubes are much enlarged; in the right ovary there is a large cavity, 1.5 cm. in diameter, the contents of which escaped during removal. In the left ovary, at the distal extremity, there is a cystic protuberance, which, on section, is found to contain a grumous fluid, which being placed under the microscope shows pus-cells and débris.

Microscopical examination: Left ovary—The whole stroma is transformed into fibrous connective tissue, the bundles of which are freely interlacing. Some portions of the tissue are in a state of high waxy degeneration. The arteries in the middle coat are also in a state of waxy degeneration, the calibres of which are much narrowed, or nearly obliterated, owing to an outgrowth of the endothelia, which is the characteristic feature of chronic endoarteritis. The tissue is crowded with amylaceous corpuscles. Diagnosis, chronic ovaritis; waxy degeneration

of the newly formed connective tissue and of the arteries ; corpora amylacea.

Right ovary contained a small abscess, with characteristic appearances.

Left Fallopian tube—The epithelium is preserved to a large extent, but is mostly destitute of cilia. The connective tissue is slightly augmented and of a delicate fibrous structure, in some portions with a waxy gloss, in other portions crowded with inflammatory corpuscles, also slightly waxy. Most of the arteries in their middle coats are enlarged and in a high degree of waxy degeneration. The calibre of some arteries is crowded with inflammatory corpuscles, a feature of endo-arteritis. Both in the epithelial and connective-tissue layers numerous highly refractory structureless corpuscles are scattered—so called corpora amylacea.

Right tube—The features clearly resemble those of the left ; arteries dilated and tortuous ; waxy degeneration ; corpora amylacea.

Each of these patients had metrostaxis, and no appearance of menstruation since.

The microscopical examination of the appendages shows that each patient had *ovaritis* in some stage ; some of them probably commenced menstrual life with ovarian congestion. The first case had hyperæmia of the ovaries when very young, which soon passed into acute ovaritis, then into a more chronic condition, then into cystic degeneration. The second case, an unmarried woman, suffered for years with acute and chronic ovaritis, long before the sarcoma was developed. The fifth case, also a young unmarried woman, had for years an inflammatory condition of the ovaries. The third case had evidence of acute and chronic ovaritis long before the complications of puerperal peritonitis. The fourth case, a young married woman of twenty-two, probably had ovaritis for nearly half of her life. The ovaries of Case VI. show in some portions chronic ovaritis, in others subacute, and in other portions a cirrlosed condition,

which was the outcome of long-standing inflammation. In the seventh case the ovaries were cirrhotic and atrophied. The eighth and ninth cases, both single women, had ovaries organically diseased; in one there is not the least trace of normal ovarian tissue left, while in the other the whole stroma is transformed into fibrous connective tissue.

McBurney is often quoted as having said, "That it would be difficult to point out a single well-authenticated case of acute ovaritis out of the condition of pregnancy." The same idea seems to be repeated in most of our standard gynecological works. "The ovary is seldom the seat of inflammation except as the result of childbirth" (Emmet). "Acute inflammation of an unimpregnated ovary is of such rare occurrence that no case has come under my care" (West and Duncan). "Acute inflammation and abscess of the ovary is a condition rarely met with in practice" (Hewitt). "We have had but a single opportunity of studying non-puerperal acute ovaritis upon the cadaver" (Scanzoni). "Acute ovaritis is quite rare, except as a complication of peritonitis and cellulitis" (Thomas). The first-named author further says: "In attacks of peritonitis and cellulitis the ovary may have been only scorched in the general conflagration;" that "the ovary is scantily supplied with nerves, and the pain that is so frequently experienced in the neighborhood of the ovaries has no direct connection with the ovaries." So even our classical "ovarian irritation" is a delusion! Bennett says: "In nineteen cases out of twenty in which the ovarian region is the seat of a dull, aching pain, and apparently tender and swollen, there is no actual ovarian disease; the symptoms are almost invariably the result of some uterine lesion." Another English writer says: "In many cases the symptoms are purely neuralgic in character, independent of any local lesion;" that "pain is the patient's ailment,"—"just like the back-ache which bears so large a part among the minor ills of women; and any treatment that

directs the patient's attention to the seat of suffering is apt to perpetuate the evil instead of removing it." "Pain is the patient's ailment!"—thus this eminent author speaks of this formidable disease, which is so little understood. Yet it remains just as much a fact that there are unnumbered instances of both acute and chronic ovaritis, a countless number of women suffering years of martyrdom from disease of the organs, wearing out their lives, and the cause of suffering, never recognized, remains a secret which the grave finally covers, unless, perhaps, discovered at some post-mortem, and then not very much to the advantage of the patient. Scanzoni tells of a woman who died of pneumonia; at the autopsy it was discovered that "the ovaries were enlarged, effusion into the follicles, and in the parenchyma small abscesses of various sizes, all containing sanious pus." These conditions were not suspected before death. West and Duncan tell of a similar case. A woman died of bronchitis and emphysema; at the autopsy "the appendages were found matted together by firm adhesions, one ovary atrophied and the other enlarged by a cyst filled with grumous blood." The medical attendant imagined no trouble in this direction. The same author gives other similar cases. Hennig states that out of *eighty-one* post-mortems, a diseased condition of the ovaries was found in *fifty-three*, not only showing how frequent is the disease, but how infrequently it is recognized. Another author states that out of *sixty-six* post-mortems, in *twenty-one* the ovaries presented changes due to inflammatory action. In Dr. Wylie's clinic at the Polyclinic one-twelfth of the cases were diagnosed as having tubal and ovarian disease. Two years ago, Martin, of Berlin, reported that he found one in fifteen with diseased tubes. So other uterine clinics may show as many or more of these diseases if the diagnosis is as accurately made. Martin says, "The diagnosis receives too little attention;" probably not all are diagnosed.

But, whether recognized or not, there are still many

cases of ovaritis, acute and chronic, from whatever cause they may be produced. If by septic poison, this septic poison may originate from other conditions of the system than the puerperium or from peritoneal inflammation. In a large majority of instances I believe *the ovary is infected by the unhealthy secretions from the uterine cavity*, which find their way through the Fallopian tubes to the ovary.¹ The ovary is more liable to, or in more danger of, this septic poison from the circumstance that, when an ovule escapes, there is left behind a funnel-shaped cavity, as if to invite or drink in the poison. The only wonder is that the ovary is not more frequently infected and diseased. The infection of the ovary from this cause is rendered yet more easy by any fusion or flexion of the uterus. In cases of flexion, especially, the uterine secretions to some extent almost necessarily find exit through the tubes, so infecting both tubes and ovaries.

The normal position of the uterus and its appendages is the most favorable for avoiding these possible dangers, which is also helped by the anatomical structure of the tubes, the longitudinal and circular fibres producing the peristaltic action which tends to force the secretions back into the uterus. Also the ciliated epithelii of the tubes aid in preventing fluids from passing into the peritoneal cavity; these millions of cilia may blow along the microscopical egg to its possible resting-place, also "hinder the contact of the spermatozoa with the ovum until the latter has reached the cavity suited for its maturation." Yet another *important function* of these ciliated epithelii is to *prevent fluids and noxious secretions from reaching the pelvic viscera*,² just as the cilia of the breathing organs hinder dust and dirt and other contaminations from reaching the lungs. I have watched the cilia in the liv-

¹ The uterine discharges are sometimes exceedingly noxious. "In a woman who died of pneumonia, the whole internal surface of the uterus was covered with puriform pus, which was continued along the whole tract of the Fallopian tubes."

² It has lately been demonstrated that the epithelii in the uterus are ciliated, which further helps in this wonderful work.

ing oyster, like millions of flashing diamonds, producing such currents in the water as bring necessary food to the inert mollusk. In the Fallopian tubes the cilia are no less effective, nor is their function less important. But young women, by a universal custom, push down, bind, or displace the uterus and its appendages, the *cilia can no longer do their duty*, the contagion finds an easy entrance, then commences a course of disease continuing and lingering for years.

I have a patient—a magnificently developed young woman—eighteen years of age. She should be the very picture of health, but her blanched lips, pale and agonized face, tell a different story. She says for years she has had such an *aching*, from which she is never free. When a little girl of fourteen she often leaned her head upon the desk and said, "What is it?" On examination I found the uterus completely retroverted, the fundus reached the lowest point in the pelvis, and was bound down by inflammatory adhesions; left broad ligament shortened and thickened; organs enlarged, extremely tender, and dislocated low down into the retro-uterine cul-de-sac. Her vital organs were compressed and pushed out of position, and this displacement allowed the noxious secretions of the uterus to pass readily out through the tubes, and so infect the ovary, causing disease and enlargement, which last favored the dislocation. Another young lady called to see me, same age, and equally well developed—a pupil in one of our fashionable schools. She had a small, anteflexed uterus, and back of it the ovaries and tubes bound up in one mass of peritoneal inflammation, which inflammation was doubtless caused by the unhealthful and catarrhal secretions passing from the uterus through the tubes. A young lady, twenty years of age, called at my office. She had been treated for anteflexion. So extreme was her suffering during menstruation she had to keep her bed. But her trouble was *beyond* the flexion—probably *caused by it*.

There are many such cases, young women suffering from more or less disease of the appendages. They may put on their bright attire, their cheeks are flushed, they look well,¹ yet the cause of suffering is there. We see proofs of the frequency of these conditions in the number of married women who are incapable of bearing children. Marion Sims says, "Every eighth marriage is sterile." One woman whom I was called to see had been married ten years; no children. She had been much treated for dyspepsia, but for years had suffered pain and distress in the pelvis; a mass of disease was in the region of the appendages, and *there* was the trouble and there was the cause of her sterility, all resulting from infectious discharges. A young married woman called to see me; no children. Tubes swollen and adherent, derived from unhealthful uterine discharges. But in this case the discharges were *gonorrhœal*; more serious, more quickly infecting, and most disastrous of all! So young, so lovely, and her life so blighted! Sad that mothers, daughters, reared so tenderly, should be exposed to such a *vile danger*.

About the same time I was sent to see another patient. Found the appendages wrapped in a mass of inflammation, from septic poison from the puerperal state. Laying both hands upon the pelvis, she said, "Such a misery!" She had been suffering from it since the birth of her last child, eight years ago. Now she is confined to her bed most of the time, yet during these years she has been treated by various reputable physicians and surgeons for "womb disease." "When will we learn that all the ills of womanhood are not due to inflammation of the neck of the womb?" Many are treated for "womb disease," when the trouble is with the ovaries and tubes; probably the appendages are more frequently diseased than is the uterus. Meigs said, more than forty years ago, "Disease

¹ September 20, 1884, Lawson Tait operated on a patient in Bellevue Hospital, "of *very healthy appearance*, yet for years her life has been one of prolonged misery. She had a malady that is often fatal" (New York Medical Journal).

of the Fallopian tubes is many times unsuspected, when it is the cause of disease treated under another name."

But there are many other causes or conditions that are constantly operating to produce disease of the ovaries or of the uterine appendages; cold feet and extremities and imperfectly clad limbs tend to, and must necessarily produce, some form of congestion. Some of the most serious forms of pelvic congestion, or inflammation, result from a disturbance of the peripheral circulation. It should not be supposed that women are able to stand more exposure than the opposite sex, yet many of them go out with one thickness of muslin around their lower limbs, when the opposite sex will be found to have double and treble thicknesses of woollen goods. As one writer says, "Only fools and beggars take cold." No doubt this one cause, unbalancing the circulation, has produced many instances of disease of these important structures. There is a chill, symptoms of fever, and the trouble has commenced, more serious if during the period of menstruating. Scanzoni says, "We must seek the causes of ovaritis in some disorder of menstruation;" but *ovaritis will cause these "disorders."*

Another cause of frequent disease of these organs is nervous excitement during the developing period of life, exhausting the vitality when nature needs all the vital resources for maturing and growth. One of the saddest instances of this was a woman, twenty-five years of age, broken down with tubal and ovarian disease; her strength was used up—she had lived in a whirl of dissipation and mental excitement.

In the daily habits of young women there are many cases of ill-health, all having the tendency to react upon the condition of these vital organs. And when we think of the fine organization and exquisite structure of the ovaries, their important and complex functions, that they are performing the highest physical function¹—perpetuating

¹ "All the facts of comparative anatomy indicate that the female organism is in advance of the male" "Within the ovary there is ceaseless activity, changes as subtle and eluding as the vital principle itself" (Coe).

the race, elaborating that growth that by differentiation will develop into the most complex animal organization—and that while performing these important functions there is a certain amount of physiological hyperæmia, is it any wonder, especially when we consider the thousand untoward circumstances of woman's daily life, that these exquisitely delicate organs, while performing these complicated functions, repeated every month, should take on morbid conditions—that this physiological hyperæmia should be changed into unphysiological hyperæmia, congestion and inflammation? As they have a fine organization, they are apt to suffer more seriously.

During the function of ovulation young women should as much as possible rest in bed, just as for every one rest after a meal is promotive of good digestion, and the digestive process will go on more healthfully. And as there is no physiological function higher or more important than ovulation, so the more reason women should rest, especially when we consider the miserably inherited bodies which many of our American women possess, bodies that are poorly cared for, and have very little vitality. When we consider this, more especially is there need for rest during this period. But, let it be understood, there are many magnificently constituted women who can go forty or fifty years, severely taxed all the time, never resting during menstruation, yet never experiencing the least trouble, distress, or sensation in the performance of the ovarian function; just as there are a countless number of men, for as many years, amid their business activities, who never think of their stomachs or have any trouble therewith, while there are millions of others who have as many diseased peptic glands as there are diseased follicles in as many ovaries.

I have spoken of the *causes* of these diseases, and incidentally of their *prevention*; now a word as to their *cure*. How can these diseased conditions be relieved? Our standard English gynecological author, speaking of the pain in the region of the ovaries, says: "It is very hard

to cure ; leeches do not relieve, blisters sometimes afford ease, chloroform applied to the site generally gives temporary relief, so may camphor liniment, extract of belladonna," etc.; then adds : "I have never been able to trace the permanent cessation of suffering to the unaided use of any local means."

For the second patient mentioned, with anteflexion of the uterus and inflammatory masses on each side, probably much may be done : the adhesions may be softened, the peritoneal inflammation reduced, acute salpingitis relieved. But after all this is done there yet may be found an ovary that is more than "scorched in the general conflagration."

The patient who has enlarged and adherent tubes—shall we aspirate, run the risk of wounding vital structures and poisoning them with septic material, or shall we first open the abdomen to be sure it is hydro-salpinx, and if it is, then aspirate ?

The enlarged tubes of the patient with gonorrhœal infection are without doubt filled with pus, even the fimbriated extremities are possibly distended into pus-sacs and closely agglutinated to a diseased ovary, the cilia desquamated, and the lining membrane changed. Can such organs be restored to health, or to their normal function ?

How shall we help the last-named case with enlarged tubes and ovaries diseased from septic material of the puerperal state ? She has grown gradually worse under the varied treatment of many physicians.

In the young woman with dislocated ovaries, the first patient mentioned, treatment has removed lymph-like adhesions which bound down the uterus ; but how are the ovaries to be held in position ? By broad-brimmed pessaries ? Who has succeeded ? Where are the pessaries that will hold them in position ? The patient is on the eve of a brilliant marriage. Shall we leave the ovaries to "give her the chance of some future baby" ¹—leave the

¹ Routh : *British Gynecological Journal*.

woman with the certainty of future trouble, the possibility of being permanently invalidated? Even if the ovaries are healthy, the tubes may be so changed in structure, or so misplaced by adhesions or some shortening, that they "cannot acquire their periodic relations to the ovary," any one of which conditions will be a cause of sterility. Shall we resort to Imlach's suspensory operation, oöphorraphy,¹ by which the ovary is stitched up to the infundibulo-pelvic ligament? An ovary so displaced and so sensitive is doubtless very much diseased, and from the history of the case we would judge the ovaries had been long and profoundly diseased, and consequently must have undergone certain organic changes, and where would be the good of stitching them up? Lawson Tait, who is the best authority on this subject said: "When there is really chronic inflammatory disease of the ovary, no such operation can be expected to be successful." Soon after the report of Imlach's operation appeared in the *British Gynecological Journal*, Dr. Paul Mundé, of New York, sent me the following note in reply to a letter of inquiry I had sent him: "I should feel doubtful whether in reality such an accurate anatomical adaptation could be secured as to facilitate or permit conception as Imlach intends. It seems a considerable danger to incur, merely to retain in *approximately* normal position a prolapsed and perhaps an already diseased ovary."

If we leave the ovaries as they are, it is leaving the patient with a source of misery and suffering, probably in time may compromise her life; or, if she marries, she will not only be sterile, but unable to submit to the marital relations.

Were she a dispensary patient, a young girl who by labor had to earn her own bread, and for whom it did not count much whether she had children or no, to save all future trouble and suffering, to enable her to be a useful

¹ The stitching up of the ovary was suggested to my mind when, three years ago, I read Tait's method of stitching up the uterus, and doubtless his mind traversed the whole field.

member of society, to enable her to do her daily work, and to prolong her life I would at once advise the removal of the uterine appendages. And, after all, what better can be done for this patient? Bantock said (November 11, 1885) "he knew of no remedies which had the slightest effect upon a diseased ovary." Lawson Tait said, the same date, "his own experience was that an ovary once inflamed and adherent, the disease was practically incurable save by removal (*British Gynecological Journal*, p. 383).

But lately there is a great hue and cry about the possible future baby. They do not stop to think of the countless number of women who are barren and childless for years from various forms of uterine disease—"a drop may stop a dynasty." When women are suffering from hopelessly diseased tubes and ovaries they must not be "unsexed," they must continue years in torment and misery and inability for any kind of employment or avocation, because perhaps in the diseased ovary there may be a healthy follicle, which may contain a healthy ovum, which may find its way through a possibly diseased tube, and *possibly* find other favorable conditions—like Mrs. Toodles who purchased a door-plate on which was cut the name of Thompson, because she might have a daughter, she might grow up, and might marry a man by that name. Removing diseased uterine appendages is not unsexing a woman, it is restoring her from helpless invalidism to all the possibilities and opportunities of life and labor. It is not taking away the possibility of her having children—that has already been done by disease—it is only removing a cause of suffering. In 1882 a young woman, twenty-seven years of age, was brought to me from Maine, married at fifteen, and again at twenty-two; no children. Uterus retroverted, bound down by firm adhesions, and the appendages wrapped up in a hopeless mass of disease. Thus she had been suffering for years. Hystero-epilepsy and other grave nerve-symptoms were developed. To relieve the constant pelvic pain, and pos-

sibly also to relieve some of the nerve-symptoms, I advised the removal of the uterine appendages, but was met by the objection, not only that a former medical attendant had advised a long course of treatment by bromides, etc., to cure her "nervous diseases," but mainly the objection to removing the uterine appendages was that she would be rendered sterile, that we would "take away her capabilities of having children!"



FIG. 7.—Ovary, posterior aspect; C, cyst; FT, tube flattened out, closely adhering to cyst. Fimbriate extremity glued to ovary.

A few months after, I removed the uterine appendages, and above we have a representation of them. We see how completely all functional action must have been destroyed.

The right ovary is enlarged, containing a cyst. The fimbriæ have disappeared from the adherent tube, and its extremity is closely glued to the ovary. Only small remnants of ovarian stroma left, and under the microscope the remnants are found to be in a *thoroughly atrophic* condition, cirrhotic atrophy, mainly consisting of dense

fibrous connective tissue, in which are many small amy-laceous corpuscles. The free arteries that were left were in a state of waxy degeneration. Thus *all normal structure* was *utterly* destroyed, and any physiological function would have been entirely impossible.¹

Winckel is quoted in a late number of the *Philadelphia Medical News* as saying: "The time is not far distant when the extirpation of the healthy ovaries for the cure of dysmenorrhœa, ovaralgia, epilepsy, hysteria, etc., will stop." But, Mr. Winckel and Mr. Rip Van Winkle, women with these conditions do not, as far as observation goes, have "healthy ovaries." I have never seen the ovaries removed in a single instance but they were more diseased than the symptoms had led me to suppose. Dysmenorrhœa may come from other causes, *but often* it results from a hopelessly diseased condition of the appendages. Incurable epilepsy may and has been helped by these surgical procedures. Hysteria may demand it, and ova-ralgia is only an unmeaning word to sum up the suffering that may come from diseased ovaries and tubes: and these sufferings and this irritation may be so great as to render abnormal the mental conditions.²

There is no advance made in modern surgery that will do more good, save more lives, or relieve more suffering, or add more to the sum of human life or human happiness than this one operation, known as "Tait's operation." It will save more lives than ovariectomy, because more need it.

¹ This case was reported in the *American Journal of Obstetrics* in 1884; the microscopical examination was not given. In the report I drew the following conclusions: "1. The operation should have been performed on the patient years before. 2. There was no other way to relieve her than by the operation. Soon after the publication of the article I received a letter from Lawson Tait, Birmingham, Eng., in which occurs the following sentence: "I agree with your conclusions concerning the case absolutely. The whole gist of modern abdominal surgery lies in an earnest and continuous plea for early interference. There can be no doubt that the only fear about such cases is that they are allowed to go on so long without operation."

² Trenholm reported in 1884 "a case of decided mania; both ovaries were found to be diseased, and their removal was followed by complete recovery of the patient, both mental and physical" (*Medical News*, December 27, 1884).

In 1847 the eminent and distinguished Charles D. Meigs, Professor of Midwifery and Diseases of Women in the Jefferson Medical College at Philadelphia, reported a death from Fallopian pregnancy. Twenty hours after death, when inspecting the abdominal cavity, he said, "What, alas, can we do in these cases? We could make an incision and clean away the coagula and the serum. But who is he bold enough to do so? Who is he astute enough to discriminate with so much clearness as to warrant him in the performance of gastrotomy for Fallopian pregnancy? There is no such wise and bold surgeon."

But there is, and this wise surgeon has led us out of this wilderness of doubt to the clear light of what is best to be done, and showed us how to do it successfully.

