

A CLINICAL CONTRIBUTION

TO THE

TREATMENT

OF

TUBAL PREGNANCY.

BY

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No condition which develops itself in connection with gestation is attended by greater or more inevitable dangers than that in which the impregnated ovum attaches itself to tissues outside of the uterus. The vast majority of women thus affected lose their lives from sudden rupture of the vicarious uterus in which the foetus exists, while others, after passing through long periods of suppuration and discharge of the foetal remains, die from exhaustion or the absorption of septic elements. It is true that a certain number have recovered, but none have done so without exposure to very imminent risks, and generally after prolonged suffering.

Authors have apparently vied with each other in dividing and subdividing this abnormal development into varieties subordinated to the exact position in which it occurs, some making even as many as ten of these. After careful examination of every case of extra-uterine foetation to which I have had access, I am unable to substantiate the position, and yet I feel inclined to believe that, in the commencement of its development, the impregnated ovum never attaches itself to or draws its nourishment from any other parts than those lined by the mucous membrane of the uterus or tubes. Knowing as we do the delicate and subtle connection which the chorion establishes with the maternal tissues, it is certainly difficult to believe that an impregnated ovum, falling free into the peritoneal cavity, or detained within the Graafian vesicle, can, with parts so unlike the lining of the uterus, establish relations almost identical with those which are normal. Velpeau and others have warmly contested the validity of ovarian pregnancy. One recent author, in sustaining it, mentions as a ground for it the

fact of the fœtal ball being covered by peritonæum. As it has been demonstrated that the ovary is not covered by peritonæum, this argument loses much of its force, and a resort to it shows how much in want of proof the position really is. Even the presence of the fibrous tunic of the ovary around the ovum could be simulated by an envelopment by the flattened organ, somewhat like that of the decidua reflexa in the uterus.

It is certainly possible that an impregnated ovum, caught in the fimbriæ of a tube, could develop between tube and ovary, flattening the latter, and in time attaching itself to it, so as to give many of the appearances of ovarian pregnancy. This Velpeau claims to be the true explanation of cases reported as ovarian. In the same way, the fimbria attaching tube to ovary being broken, the latter, holding in its grasp the impregnated ovum, may fall into the peritoneal cavity, where the vascular chorion soon establishes a firm connection with the peritonæum or omentum, rendering the tubal relation entirely insignificant.

Interstitial pregnancy is, of course, only a variety of tubal pregnancy, that part of the tube being involved which passes through the uterine wall.

It may be said that all this is unproved. To this I would reply that the usually accepted theories are by no means satisfactorily settled; that the view here advanced is far more rational and in accordance with physiological laws; and that it is offered entirely in the character of a suggestion for future investigation.

With these prefatory remarks, I will now proceed to relate the following case, which has called them forth:

On the 4th of February, 1875, I was requested to visit Mrs. C., in Elizabeth, N. J., in consultation with Drs. Green and Crane, of that city. I found the patient to be a refined and educated lady of thirty-two years of age, of medium height, who, up to three weeks before the date above given, had enjoyed excellent health.

The history given me of her existing illness was the following: on the 25th of October Mrs. C. had menstruated for the last time, and within three weeks from that date the gastric symptoms of pregnancy had shown themselves. About

the 24th of November a very slight discharge of blood took place from the vagina, but neither in duration nor character did it resemble the menstrual flow. From this time until three weeks before I saw her, all of the symptoms of pregnancy had gradually developed themselves, and the patient, who had been sterile during a married life of six years, had believed herself to be now really pregnant.

About the 15th of January, during the night, the patient, who for some days before this had experienced some uneasiness in the left iliac fossa, was awakened from sleep by a severe "cramp" in this region. In a short time this increased to a pain which became agonizing in character, and Dr. Crane was sent for. He found her suffering so severely that the forehead was bathed in perspiration, the pulse small and rapid, and the countenance pinched. Only after the free and repeated use of morphia subcutaneously, was this attack relieved. On the next day the patient was free from this paroxysm, but felt a great deal of soreness over the left iliac fossa, and this part was tender to the touch. During the next five days this state of things continued, and at the end of this time another paroxysm of severe pain occurred which, like the first, was relieved by the free hypodermic use of morphia.

After this attack the patient was not again free from pain until I saw her, and was most of the time confined to her bed and kept under the influence of morphia, which was repeatedly injected hypodermically. At intervals of several days the severe attacks of pain which I have described would come on, and last for five or six hours, passing off under the influence of morphia used as above mentioned.

Upon my visit at 4 p. m. on the 4th of February, I found that Mrs. C. had had, in all, five paroxysms of pain, and was never entirely free from suffering. So great was this when she walked across her room, which she did very rarely, that she would bend the body sharply forward to avoid putting the abdominal muscles into a state of tension. During the three weeks of suffering which I have described, she had become emaciated, the eyes were somewhat sunken, and below them were dark semicircles. She was somewhat under the influence of morphia, and felt no great pain when she kept per-

fectly quiet. Her mind was, however, greatly disturbed by the fear of the recurrence of what she termed "the cramp." The temperature was at this time normal, the pulse small and quick, the appetite almost abolished by the persistent use of morphia, and the bowels very much constipated.

A physical examination revealed the following state of things: the uterus appeared somewhat enlarged to conjoined manipulation, measuring three and a half inches from the os externum to the fundus, was in the position of right oblique anteversion, and was not so movable as normal; the vagina was soft, elastic, and enlarged as it is during pregnancy; to the left of the uterus I found, by vaginal touch, a tense, elastic cyst, which filled the whole iliac fossa, pressed the uterus to the right, and extended downward as low as a point a little below the os internum. Upon conjoined manipulation this cyst was found to be as large as the uterus in the third or third-and-a-half month of pregnancy. It was sensitive to the touch, slightly movable upon upward pressure, and, upon carefully practising *ballottement* upon it, I could feebly but distinctly get the evidence of a very light body which was thrown upward and fell upon the floor of the sac. No doubt existed in my mind as to the recognition of this fact, and it was only after its recognition that I ventured to probe and measure the uterine cavity. Upon it I based the diagnosis which I then made of left tubal pregnancy at the end of the third month of development.

From the period of pregnancy, the repeated attacks of severe paroxysms of pain, the tenderness upon pressure, and the apparent tenseness of the distended sac, I was convinced that the occurrence of rupture was imminent, and urged immediate surgical interference. The husband and relatives of the patient were naturally very greatly perturbed at the announcement which I made, more especially since I was unable to hold out any bright prospect of recovery, even if operative procedure were resorted to.

On the 5th of February, one day after my visit, Dr. Marion Sims went out to see the patient; on the 6th Mr. C. called to request me to act as my judgment dictated in reference to the case; and on the 7th I performed the operation, which I now

proceed to describe. On Sunday, the 7th, in company with Drs. J. E. Blake, J. B. Hunter, and S. Beach Jones, I went to Elizabeth, prepared to remove the fœtus by elytrotomy. The weather was intensely cold, the thermometer being at zero in Elizabeth. At the house of the patient we were met by Dr. Crane, Dr. Green being detained by a case of midwifery.

Before detailing the treatment of this case, I would remark that few cases of extra-uterine pregnancy have, during their early and progressive stages, been brought to a favorable conclusion by surgical means. For this there are four good reasons: 1. The doubt which usually attends diagnosis; 2. The danger of attending invasion of the peritonæum; 3. The dangers arising from septic absorption from retention of the fœtus or its envelopes; and, 4. The certainty of grave hæmorrhage from opening into the extraordinarily vascular nest in which the fœtus is contained. To meet the indications the following plans have been those generally adopted: 1. The operation of gastrotomy has been practised, that the fœtal mass might be removed like an ovarian tumor; 2. The liquor amnii has been drawn off by a very delicate trocar, in order to diminish tension and check the growth of the cyst; 3. The fœtus has been killed *in situ* by the passage of strong currents of electricity, or the injection into the sac of strong narcotics, like atropia or morphia, with the hope that nature might, at a future time, cause its discharge, with the contents of the abscess which it usually creates.

The first procedure is attended by the dangers of peritonitis and hæmorrhage; and the second and third by those of hæmorrhage into the sac, septicæmia, and subsequent formation and discharge of an abscess located just under the peritonæum. By the process which I now proposed to adopt, I hoped to avoid the dangers of peritonitis by opening the fœtal sac by the vagina, passing up to it between the folds of the broad ligaments. Hæmorrhage, I thought, might be in great degree prevented by cutting into the sac by means of a knife rendered incandescent by a powerful current of electricity. And by complete removal of both fœtus and placenta, and thorough drainage of the sac by carbolized injections through

a tube of glass or silver, kept in it, and discharging its contents by the vagina, I was sanguine of avoiding septicæmia.

I proceeded to adopt the plan from which I hoped for these results in the following manner: the patient having been etherized by Dr. Blake, was placed upon a table before a window admitting a strong light, in the left lateral position, and Sims's speculum introduced. Through this the cyst to the left of the uterus could be distinctly palpated. Now, fixing a long-handled tenaculum in the cervix uteri, and another in the vagina near the left ilium, this part was by them put on a stretch so as to make of that side of the canal a triangle, the base of which was over the cyst, and the apex at the vulva. Assistants held these tenacula during the operation. Taking the platinum knife of the galvano-caustic battery, which was brought to a white heat, I now passed it gently over the base of the triangle described as created in the vagina, carrying it from one tenaculum to the other. By repeating this the vaginal wall, over the lower segment of the cyst, was slowly cut through. In six minutes the cyst was opened by the incandescent knife, and a straw-colored, slightly-pinkish fluid was thrown out with such force as to fly into my face and over my clothing.

Thus far no blood whatever had been lost. I now passed my index-finger into the cyst, and felt a foetus lying horizontally with the head toward the ilium, and the feet toward the uterus. Passing in the middle finger likewise, I caught the feet between the two, and, turning the foetal body, drew them through the artificial os which I had created, and delivered the child from the vicarious uterus which it occupied. The steps of the procedure exactly resembled those adopted in ordinary podalic version. The foetal body advanced steadily until the arms reached the opening; then arrest occurred until they were swept out. The head was then arrested, and I strove to liberate it by manipulation and traction. Failing in this, I applied a pair of long-handled placental forceps, and at once it was extracted. The cord was then cut, and I proceeded to deliver the placenta by gentle traction and detachment, as is done after ordinary labor. Thus far thirteen minutes had been consumed.

At this point, the first difficulty which had attended the operation, showed itself. This was due to want of knowledge on my part as to the exact manner in which the placenta is attached in tubal pregnancy. Foreseeing this difficulty, I had carefully looked for information in the literature of the subject, but could find none which was of any practical value. I feared to detach the placenta with any degree of force, for the reason that I might, I thought, tear through the wall of the sac, and thus open into the peritonæum. For this reason, I proceeded less rapidly and vigorously than I should otherwise have done. When I had separated a little over half of the placenta, a very severe hæmorrhage took place, and so much was the patient's condition depreciated by it in the two or three minutes of its duration, that I was unwilling to delay for the removal of more. Tearing the detached portion off, I passed a large gum-elastic catheter into the sac, and injected a solution of the persulphate of iron into it. This I was very sorry to be forced to do, but the hazard of delay was too great to allow of any other course. The flow of blood was instantly checked, but this was attained at the sacrifice of perfect drainage, and the leaving of the sac full of coagulated blood, and a portion of the placenta. Instead of inserting a drainage-tube, I was forced to substitute a long tent of carbolized cotton, saturated with a solution of persulphate of iron.

In twenty-eight minutes from the commencement of the operation, the patient was put to bed, her head kept low, the foot of the bedstead elevated about six inches, ten drops of Magendie's solution of morphia injected subcutaneously, perfect quiet established, and a milk-diet ordered.

The foetus being examined, was found to measure six and a half inches; and the placenta, which resembled closely one developed *in utero*, looked like one of three or three and a half months of growth. As it was not entire, it was not weighed or measured.

After this, all went well until the evening of the fourth day, when I withdrew the tent of cotton, and symptoms of septicæmia soon showed themselves. These yielded to constantly-repeated injections into the sac of carbolized water, at the end of a week. On the seventh day after the operation,

slight hæmorrhage took place from the sac, but was without difficulty controlled by the addition of a small amount of solution of persulphate of iron to the carbolized water.

On the fifteenth day the remaining portion of the placenta came away spontaneously. On the sixteenth day evidences of an embolus in an unimportant vessel of the arm showed themselves, which created a small abscess, and about the same time fears were entertained that phlegmasia dolens was developing. These last, however, proved delusive. Subsequent to this period, no evil symptom showed itself, the patient suffering only from fecal impaction, probably the result of interference with defecation by the obstruction exerted by the tumor, and the interference with peristalsis effected by the large amounts of morphia taken.

Six weeks after this operation, I examined by vaginal touch, and was surprised to find the opening made by the incandescent knife so completely closed that I found difficulty in ascertaining its exact location; and ten weeks after it, upon visiting Elizabeth to see another patient, I had the satisfaction of seeing Mrs. C. in her parlor receiving company, and presenting an appearance so markedly in contrast with that presented by the haggard and emaciated patient of February 7th, that, even after conversing with her, I was scarcely able to identify her as the same individual.

The appreciation of the sign of *ballotement*, which greatly aided me in arriving at a positive diagnosis in this case, has served me an equally valuable purpose in two others. On no single sign, however, should undue reliance be placed. During the first sixteen years of my practice, I saw no case of extra-uterine pregnancy. At the end of that period, I saw four in one month. During the past seven years, I have met with nine. Three of these I saw after rupture of the sac, the patients being *in articulo mortis*; two were put beyond question by gradual discharge of foetal bones; in four cases I succeeded in making a diagnosis as positive as that which is detailed in this paper. In these, a certain conclusion was arrived at by coincidence of the following conditions: (a.) The existence of the gastric, mammary, and pelvic symptoms of pregnancy; (b.) A uterus smaller than should exist at the sup-

posed period of gestation; (c.) A sensitive tumor to one side of or behind the uterus; and (d.) Pains extending from the pelvis down one thigh.

In three of these four cases I so distinctly obtained the sign of *ballottement* as to be willing to lay a great deal of stress upon it in arriving at a decision, and in all of them having arrived at a conclusion with a good deal of positiveness, I did not hesitate to employ the uterine sound to assure myself of the position, capacity, and state of vacuity of the uterus. In a doubtful case dilatation of the cervical canal by tents would prove a valuable means of entirely excluding normal pregnancy. True, such a method would insure an abortion, if normal pregnancy existed, but if the probabilities were strongly in favor of extra-uterine pregnancy, and surgical relief appeared practicable in case of its existence, it would be a diagnostic resource not only legitimate but obligatory.

