A CASE OF EXTRA-UTERINE RETRO-PERITONEAL PREGNANCY IN THE SEVENTH MONTH.

Read before the Chicago Gynecological Society, December 19, 1890.

BY W. W. JAGGARD, M.D.,

PROFESSOR OF OBSTETRICS, CHICAGO MEDICAL COLLEGE, AND OBSTETRICIAN TO MERCY HOSPITAL, OF CHICAGO.

As my contribution to this evening's discussion, I beg to report a case of extra-uterine, retro-peritoneal pregnancy that is especially noteworthy on account of its clinical course, anatomy, diagnosis, and treatment.

History (Dr. Fitch C. E. Mattison).—Mrs. L. S., 36 years 6 months old, born in Altenberg, Saxony, coachman's wife; 5 feet 3 inches in height, 130 pounds in weight. Family history good; mother living, father died from septicæmia following injury to the hand.

Married two years ago (September 23, 1888). Date of commencement of last menstruation, April 15, 1890; first pregnancy. Course of early pregnancy distinctly abnormal; patient said she was in bed at least three days out of the seven from pain and weakness.

Dr. Fitch first saw the patient September 23, 9:30 A.M., when he found a woman, with a large abdominal tumor, in a condition closely bordering on collapse. She was cold, pallid, nearly pulseless, and vomited incessantly. Pulse 150, temperature 97° F.; relative suppression of urine (3 ounces non-albuminous urine by catheter). Mind clear; patient complained of difficulty in breathing rather than of positive pain. The patient and her friends informed Dr. Fitch that the alarming condition had developed gradually during the past three days, apparently in consequence of a day's washing. Dr. Fitch concluded that the abdominal tumor was the pregnant uterus. Upon vaginal examination he found the vaginal portion of the cervix uteri unchanged, and perceived no bleeding from the os. Upon the application of the usual remedies—dry heat and diffusible stimulants—the patient did not react.

At 4 P.M., I saw the case in consultation with Drs. F. E. Waxham, Bayard Holmes, and Fitch C. E. Mattison. The woman showed such ominous signs of considerable internal hæmorrhage and of severe shock that I thought death certain. Her mind, however, was clear, and Dr. Fitch informed us that her general condition was not more unfavorable than in the morning.

The fact of pregnancy was evident from the appearances of the mammæ alone, without reference to the changes in the pelvic genitalia, or to the history of amenorrhœa in a woman previously healthy and perfectly regular. But the nature of the pregnancy and the cause of the bleeding were obscure.

Inspection revealed a single, symmetrical abdominal tumor as large as the gravid uterus at

the seventh month, with an arcuate fundus. Each horn extended upward to the lower border of the false ribs, while the median furrow dipped downward to a point four centimetres above the umbilicus. The size and shape of the tumor were suggestive of twin pregnancy. On palpation the walls of the tumor were so tense and unyielding that it was impossible to outline any contained object or to practice ballottement. Alternations in density—that is, intermittent uterine contractions—were notably absent. The tumor was absolutely flat on percussion. Maternal heart tones and pulsations of the aorta were transmitted with uncommon clearness and distinctness over all areas, but fetal heartbeats and uterine souffle could not be detected. Upon examination per vaginam it was evident, from the conical shape of the vaginal portion of the cervix uteri and from the persistent hymen, that the woman was a primipara. The vaginal portion of the cervix, three centimetres in length and unchanged, seemed relatively hard for such an advanced pregnancy; it was displaced to the right of the median line, and the os externum was closed. The vaginal vault, symmetrically convex downward, and apparently filled out by the head well engaged within the pelvic cavity, was directly continuous with the vaginal portion, and presented the sensation of equal resistance in all directions. Upon withdrawal of the finger it was found to be stained with blood, although there was no external hæmorrhage. The bladder contained one ounce of non-albuminous urine.

The diagnosis seemed to me to lie between intra-uterine hæmorrhage from premature detachment of the normally implanted placenta, and hæmorrhage into the placenta of an extra-uterine pregnancy, with the weight of evidence in favor of the former view. Rupture of the normal uterus, or of the adventitious uterus of ectopic gestation, could be definitely excluded by reason of the single, symmetrical, perfectly circumscribed character of the tumor, and on account of the absence within the peritoneal cavity of fluid or unusual solid objects. In this opinion the other consultants concurred.

Any operative interference at this time was clearly contraindicated—first, because the woman appeared to be *in articulo mortis*; and, second, since the tumor had persisted of the same size at least since morning. There was nothing to be gained and very much to be lost by the immediate removal of such a mass of blood already extravasated. Accordingly, at Dr. Holmes' suggestion, we determined to transfuse and to await developments. Twenty ounces of the physiological salt solution (0.6 per cent.) were injected by means of Allen's surgical pump into the subcutaneous connective tissue about the inferior angles of the scapulæ and over the lumbar region. The insertion of the needle caused little

pain, and the injection of the solution and its dispersion by rubbing only slight discomfort. About one-half hour was occupied in the act of transfusion, and at the end of this period no apparent effect on the circulation was observed. Dr. Holmes thought there was an increase in the volume of the pulse, but I was unable to perceive any change. Dry heat to the body was continued, and rectal alimentation (six ounces of peptonized milk every eight hours) was recommended.

Then we left the patient in the care of Dr. Fitch, with the understanding that in the event of death we should be summoned to the autopsy, or, in case of sufficient reaction, to the woman's active relief. 10:30 P.M.: Pulse 150, temperature 97° F.

Second day, September 24, 7 A.M.: Pulse 130, temperature 100 $\frac{2}{3}$ ° F.; 2 ounces of urine by catheter that contained neither sugar nor albumen. The woman rose from her bed without aid and walked across the floor. 10:30 A.M.: Consultation. Improvement was marked, in consequence of, or independent of, the transfusion and rectal enemata. No apparent change in the abdominal tumor nor in the vaginal portion of the cervix uteri; slight oozing of blood from the os externum. Upon careful and prolonged physical examination of the abdomen no additional facts were discovered. The woman was still too feeble to bear a severe operation; she had plainly gained during the night; moreover, the case looked more and more like an example of accidental hæmorrhage, so we determined to wait. Enemata of peptonized milk, and ammonium carbonate per os, since the vomiting had ceased, were recommended.

10 P.M.: Pulse 120, temperature 99° F. Patient complained of pain in the region of the abdominal tumor, but no contractions were perceptible and no effect upon the vaginal portion of the cervix was apparent. Morphine hypodermatically.

Third day, September 25, 7 A.M. Pulse 100, temperature 99 $\frac{2}{3}$ ° F.; 2 ounces of urine by catheter that contained neither sugar nor albumen. 10:30 A.M., consultation. General condition much better than at any time since we saw the case. No change in the abdominal tumor nor in the vaginal portion. Again, for the third time, we discussed at length the propriety of exploratory dilatation of the cervix and of exploratory laparotomy, but, in view of the apparent nature of the case and of the distinct and progressive gain, we decided to wait. We left the case in Dr. Fitch's care, with the understanding that we should be called in the event of any change for the worse. 9:30 P.M.: Pulse 98, temperature 99 $\frac{2}{3}$ ° F. Voided voluntarily 6 ounces urine since previous night.

Fourth day, September 26: Pulse 100, temperature 99°. Voided 8 ounces urine, passed a

comfortable night, moved about in bed, and sat up in a chair while the mother made the bed. Drank with relish large quantities of peptonized milk. No change in the abdominal tumor nor in the vaginal portion of the cervix.

9 P.M.: Pulse 100, temperature normal; urine, 10 ounces since morning.

Fifth day, September 27, 8 A.M.: Pulse 96, temperature normal; 20 ounces of urine. Patient passed a comfortable night, but complained of some pain in the back and in the region of the lower abdomen. No change in the abdominal tumor nor in the vaginal portion of the cervix.

9 P.M.: Pulse 100, temperature normal; 36 ounces of urine.

Sixth day, September 28, 8 A.M.: Pulse 96, temperature 99 $\frac{2}{3}$ ° F.; 26 ounces of urine. Patient passed an uneasy night, restless, and complained of pain. Slight bowel movement. One teaspoonful and one half of compound licorice powder was followed by five free discharges of fluid fæces; complained of considerable abdominal pain. No local change. 9 P.M.: Pulse 120, temperature 101° F.; 40 ounces of urine; slight discharge of blood per vaginam.

Seventh day, September 29, 8 A.M.: Pulse 112, temperature 101° F.; 20 ounces of urine. Bowels moved four times during the night, with pain, and the discharge of large quantities of fæcal matter. No local change.

9 P.M.: Pulse 120, temperature 102° F.; bowels moved four times since morning, but pain slight.

Eighth day, September 30, 8 A.M.: Pulse 104, temperature 101 $\frac{3}{4}$ ° F.; great pain.

9 P.M.: Pulse 114, temp. 103 $\frac{3}{4}$ ° F.; great pain.

Ninth day, October 1, 8 A.M.: Pulse 116, temperature 102 $\frac{3}{4}$ ° F. Passed a comfortable night. Rigor at 7:30 A.M.

10:30 A.M.: Consultation. I saw the case for the fourth time with Drs. Waxham, Holmes and Fitch. Marked changes had occurred in the abdominal tumor. It had increased slightly in size and was notably emphysematous; on percussion the sound, while not absolutely flat, was still not resonant, as in physometra. Even on this occasion it was impossible to outline the body of the fœtus. Vaginal portion of the cervix uteri absolutely unchanged; slight oozing of blood from the os externum.

Plainly the woman was the subject of septic infection that had its origin in the abdominal tumor, and the indication for active treatment seemed absolute. We discussed exploratory abdominal section and exploratory dilatation of the cervix, and decided in favor of the latter. The patient's critical condition was fully recognized, and her friends were informed of the possibility of death during the operation.

Operation 11 A.M. Ether narcosis. Patient placed on a table, and with all antiseptic precautions, I dilated what I supposed to be the cervix

uteri by means of Hegar's bougies and Robert Barnes' water bags. Upon the introduction, without violence, of a Hegar bougie No. 6 through the os externum, a free discharge of liquor amnii stained with blood occurred. Uncommon difficulty was encountered in the use of Barnes' bags. Finally, however, with Dr. Waxham's aid, I succeeded in passing two fingers into what I thought was the cavum uteri, recognized the foetal head, with the occiput to the right and posterior, O. D. P. Failing to turn by the method of Braxton Hicks, the canal was further dilated, the right hand introduced, and version by the feet with immediate extraction easily accomplished. The child, male, was dead and macerated, its tissues emphysematous. The placenta, detached for one-half, was found to be firmly adherent for the rest of its area to the site over the right antero-lateral wall of the cavity. Several bands of dense connective tissue were sawed through by the hand, and the after-birth delivered. During version I felt the promontory of the sacrum and the pulsation of the aorta with alarming distinctness; but it was only after delivery of the placenta that I recognized the fact of extra-uterine pregnancy. At this time I felt the posterior surface of the normal uterus, heretofore covered in part by the placenta.

The woman was put to bed and dry heat applied; death followed in a few moments. The duration of the operation was one and one-fourth hours; the total quantity of blood lost slight. I attribute death immediately to the combined effect of trauma and ether.

Autopsy.—A limited post-mortem examination was permitted and at once performed. Peritoneal cavity dry, free from blood; a few adhesion bands, evidently old, stretched between adjacent coils of small intestine, but the structures were not matted together in any important degree. The mesentery, unfolded, and the small intestines greatly separated by the unfolding of the mesentery, together with the unfolded right broad ligament and the normal uterus, constituted the anterior covering or wall of a large sac that extended from the pelvic floor below to the transverse mesocolon above. The thickness of this anterior wall was not much greater than that of the mesentery and flattened-out small intestine, except in the region of the placental site—the under surface of the right broad ligament and the upper posterior surface of the uterus. Here the wall was one centimetre in thickness, and contained a broad stratum of non-striated muscular fibre, the only visible sign of an adventitious uterus. Upon the removal of the anterior covering the posterior wall was found to be the usual undifferentiated sub-peritoneal connective tissue.

The cavity thus bounded was chiefly abdominal, to a lesser degree pelvic. It was extra-uterine and retro-peritoneal. In addition to old blood

clots and fragments of the foetal envelopes, the cavity contained several lumps of maternal faeces; two perforations through the inferior border of the small intestine were discovered, probably due to pressure atrophy.

The uterus, slightly deflected to the right of the median line, enlarged to a degree corresponding to the tenth week of pregnancy, presented the following measurements: Length, equally distributed between corpus and cervix, 10 cm.; thickness of the wall of the corpus, 2.5 cm.; of vaginal cervix, 1 cm. The uterus was situated directly in front of the child's head. Examination showed that the lower mouth of the canal, through which the foetus had been delivered, consisted in the os externum, while the mouth communicating with the sac was a rupture through the posterior wall of the lower uterine segment, at a point where the tissue was as thin as blotting paper. In other words, I had passed the bougie per os externum through the posterior wall of the supravaginal portion, thinned out from pressure atrophy. The decidua vera, partly detached, had not been extruded from the cavum uteri.

The left ovary and Fallopian tube were apparently normal; the tube was pervious; no corpus luteum. The right ovary and tube were completely lost in the gestation sac.

The placenta, pretty well disintegrated by the force of the original hæmorrhage and by subsequent changes, showed a few white infarcts and several bands of tough connective tissue that firmly bound the organ to its site over a considerable area. The after-birth was also studded with old coagula. Fragments of chorion and amnion were visible, attached to the placental edges. The foetus, male, well developed, macerated, 1,165 gm. in weight, 40 cm. in length, corresponded to the seventh month of pregnancy.

The items in the history of this melancholy case that I beg to call particular attention to are:

1. This case presents a typical example of the classical picture of extra-uterine pregnancy, in that the anomaly occurred in the person of an old primipara that had been married for some time before the event of pregnancy. It is true, the right tube and ovary were involved, instead of the same organs on the left side; but then the dissection of specimens collected within recent years shows that the election of the left side is not of such relatively frequent occurrence as was formerly believed to be the case.

2. The anatomical findings indicate that the pregnancy, originally tubal or ovarian, developed in the cavity of the right broad ligament. Later the ovum passed up into the abdomen, lifting up the peritoneum and unfolding the mesentery, still maintaining its extraperitoneal character. Death of the foetus, from hæmorrhage into the placenta, probably occurred about the time and in conse-

quence of the day's washing, already mentioned. The bleeding, however, took place within a closed sac, and the hæmorrhage ceased when the pressure of the extravasated blood became equal to the general blood tension of the mother. Infection doubtless resulted from perforation of the small intestine, although, of course, other modalities are possible.

It is of interest to note that the cervix persisted in its original virginal length. That is to say, the anatomical os internum was situated midway between os externum and fundus, in a uterus hypertrophied under the influence of extra-uterine pregnancy to a degree corresponding to the tenth week. In pregnant uteri of the same date, the cervix is both relatively and absolutely shorter. (Compare Braum, "Der männlich und weibliche Körper in Sagittalschnitt," Leipzig, 1872; Benc-kiser, "Beiträge zur Anatomie des schwangeren Uterus," Stuttgart, 1887, Taf. i.). Does not this fact seem to indicate that during pregnancy the supravaginal portion of the cervix uteri is dilated from above downward, or, in other words, that the lower uterine segment is derived, in part at least, from the cervix?

3. As regards *diagnosis*, all the medical men connected with the case must feel some degree of chagrin over the failure to locate exactly the pregnancy.

Still, the fact that four medical men, not without experience in this class of cases, and presumably qualified, deliberately, and independently of each other, formed the same opinion, though an erroneous one—this fact indicates that the case presented extraordinary difficulty. Possibly, also, this fact may add to the instructive value of this communication. Furthermore, the circumstances under which we saw the case were unfavorable to an accurate diagnosis. We first saw the woman in a state closely bordering on collapse, and her precarious condition at a later period seemed to contra-indicate the exposure and fatigue incident to a more thorough examination. Then, too, an account of the character of the abdominal tumor already mentioned, we were utterly unable to elicit, by the usual method of physical exploration, sufficient signs to constitute a positive diagnosis. During the course of the case, however, there were presented certain significant signs that deserved clearer recognition and more exact valuation. Some of these significant signs were:

1. The abdominal tumor was absolutely quiescent throughout the period of observation. The woman, indeed, at times complained greatly of abdominal pain, but this symptom was not attended by rhythmical contractions, with their characteristic changes in the contour and consistency of the tumor. In the severest cases of "accidental hæmorrhage" some sign of uterine contractions is almost always manifested within

twenty-four or forty-eight hours after the occurrence of the accident.

2. The maternal heart tones were transmitted uncommonly clearly and distinctly over all areas of the tumor, and the uterine souffle was absent.

3. The vaginal portion of the cervix uteri persisted relatively hard and unchanged in length throughout the eight days of observation. Every one is familiar with Goodell's off-hand rule: "When the cervix is as soft as one's lips, the woman is probably pregnant; when it is as hard as the tip of one's nose, the womb is most likely empty." In this case the vaginal portion was softened, yet not to the degree commonly observed at the seventh month. The persistence in the length of the vaginal portion—absence of effacement and dilatation—was still more significant. In all these cases of "accidental hæmorrhage" that I have observed, marked changes in the vaginal portion appeared and progressed within the first twenty-four hours after the accident.

4. The vaginal portion of the cervix was distinctly deflected to the right of the median line.

The evidence accumulated from these four signs, although negative in character, was still of a degree to overbalance the evidence in favor of "accidental hæmorrhage," which, as before remarked, consisted in the fact of advanced pregnancy, of the single, symmetrical form of the tumor, of the apparent direct continuity of the abdominal and pelvic tumor, of the vault of the vagina convex downward and filled out by the head. At least the negative evidence ought to have deterred from a therapy based upon an absolutely positive and exclusive diagnosis.

The fact that the hæmorrhage through the os externum was an insignificant oozing might be interpreted as equally in favor of both "accidental hæmorrhage" and extra-uterine pregnancy. I have encountered examples of the former anomaly in which scarcely a drop of blood escaped into the vagina.

Finally, an exploration per rectum was not made. Such an examination, I believe, might have revealed the real nature of the case.

4. Under the topic of *treatment* I wish to mention: 1. The apparently important effect of the subcutaneous injection of the physiological salt solution. The total quantity injected—twenty ounces—was absorbed without local reaction within twelve hours after the operation. At the same time, however, peptonized milk was exhibited per rectum. 2. Two procedures were discussed when we first saw the woman and at each subsequent meeting. These were, in view of the uncertain diagnosis, exploratory abdominal section and exploratory dilatation of the cervix uteri. In the light of the autopsy, laparotomy would have accomplished nothing except to reveal the nature of the case, because the small intestine was so generally distributed over the an-

terior wall of the sac, because the product of conception was retroperitoneal, and because the retroperitoneal connective tissue had been extensively dissected up in all directions. It would not have been possible even to ligature, on the peritoneal side, the uterine, ovarian, and spermatic arteries before their distribution to the placenta, for the reason that the relations of these vessels were so distorted that they were not found after prolonged search during the autopsy. Exploration through the cervix, therefore, was indicated, and it was only unskilful or unfortunate use of the sound that led to the serious mistake in the operation. Under the conditions of the case, the vaginal operation for advanced extra-uterine pregnancy would have been the operation of election, even in the presence of the risk of bleeding from the placental site.

It may be urged, in criticism of the management of this case, that the golden opportunity for operation was presented and lost, when the patient had recovered in some degree from shock and hæmorrhage, but had not yet become infected. In reply to this, I desire to say that while the actual time of the operation was unfavorable, still it was the only time we were summoned to the case when the indication for interference was absolute. As a matter of fact, I believed the woman received a necessarily fatal injury when the original hæmorrhage into the placenta occurred, and when the retroperitoneal connective tissue was so extensively destroyed.

2330 Indiana Ave., December 19, 1890.

TREATMENT OF GALLSTONES.

Read before the New York State Medical Society, February, 1891.

BY WILLIAM WOTKYNs SEYMOUR, A.B. (Yale),

M.D. (Harvard);

OF TROY, N. Y.

FORMERLY HOUSE-SURGEON OF THE BOSTON CITY HOSPITAL; MEMBER OF THE AMERICAN AND BRITISH MEDICAL ASSOCIATIONS; FELLOW OF THE N. Y. STATE MEDICAL ASSOCIATION AND OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND OF GYNÉCOLOGISTS; PROFESSOR OF THE SURGICAL DISEASES OF WOMEN IN THE UNIVERSITY OF VERMONT.

In considering the treatment of gallstones we have to consider the treatment during the paroxysm, during the intervals between the paroxysms, medical and surgical measures for their radical relief and the constitutional vice leading to their formation. During the paroxysms I do not think anything superior to hypodermatic injections of morphine and atropine. They are capable of very accurate dosage, but must be very carefully employed, for some patients are extremely susceptible to these drugs and one who has long had the drugs only with benefit may suddenly be thrown into a very alarming condition by the usual dose. I should in an adult prefer to administer repeated doses of a $\frac{1}{4}$ grain of morphine and a 1-150 grain of atropine, than to

give as some do at the very outset $\frac{1}{2}$, 3-4, or even a grain of morphine. To the hypodermics, chloroform or ether by inhalation are the only possible rivals, with the added disadvantage that in employing the anæsthetics, we expose the patient to the dangers of anæsthetization.

My friend Dr. James Hutchison, of Troy, not infrequently has employed chloroform hypodermatically as an adjuvant to the administration of morphine and atropine, and has found it of excellent service. He first injects a half drachm of pure chloroform, and follows it by an injection of morphine and atropine. The chloroform acts almost instantly in relieving the pain and its influence persists until the morphine and atropine begin to exert their influence.

With morphine alone I have never had such prompt results as with a combination of it and atropine. The atropine, by relaxing the muscular fibers of the gall-bladder, and of the abdominal muscles, puts in abeyance one of the most potent factors of gallstone-colic. The present formula I use is Magendie's solution with half grain of sulphate of atropia to the ounce. Formerly I used a grain of atropine, but I found the amount of atropine altogether too large; giving rise, in some cases, to paresis of bladder lasting for several days, hallucinations of sight, together with dryness of the throat that was most tormenting. If the agonies did not yield promptly to hypodermatics of morphine and atropine I would certainly have recourse to chloroform or ether by inhalation, personally I would prefer chloroform, especially if it be administered, as it ought, by the physician. Not merely do morphine and atropine, as well as the anæsthetics, relieve the pain, but they produce such relaxation of the tissues involved that the expulsion of calculi is greatly favored. Whether prolonged anæsthetization and the consequent saturation of the tissues with them can have any actual solvent power on calculi, I think very improbable, although some practitioners are inclined so to believe, as a result of their trials in some severe cases. If from any reason we can not employ drugs hypodermatically, they may be administered by the rectum in shape of enemata or suppository, by the mouth, or has very recently been suggested, in the case of morphine, by insufflation into the nose. As a rule, vomiting precludes giving medicines by the mouth, and we are consequently limited to the rectal, nasal or epidermal methods, and for these methods, morphine and atropine or the various preparations of opium and belladonna are the main stays. Hot baths during the paroxysms are of great service.

From the fluid extract of wild yam (*Dioscorea Villosa*) I have had very good results in some cases. The relief from pain has been very prompt at times, but it has the disadvantage of being only administered by the mouth and its vile taste