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EXTRA-UTERINE PREGNANCY, WITH REPORT OF CASES.

Presented to the Section on Obstetrics and Diseases of Women, at the
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BY M. PRICE, M.D.

PHILADELPHIA, PA.

In considering the condition of extra-uterine pregnancy there are very many questions of great professional interest, some not yet finally settled, all relating to the condition; giving light upon its treatment is of vast importance to the practitioner. It is important that he should be familiar with all the more prominent symptoms of an accidental misplacement or deviation from lines of normal pregnancy.

All cases of suspected pregnancy in women who have had a longer or shorter period of sterility, should be carefully watched in the early months for symptoms of tubal gestation. I do not know of a single case of rupture, or the history of rupture with well marked symptoms of loss of blood, that the rupture did not take place before the twelfth week.

All these cases must of necessity first pass through the hands of the general practitioner, and are lost or saved through their appreciation of the symptoms and their ability to make a diagnosis.

If the real character of the accident goes unrecognized, the great majority of these cases of extra-uterine pregnancy perish; death is almost certain and in very many instances sudden.

They perish in the majority of instances because of the failure of the physician to make a diagnosis; they perish of hemorrhage, septic peritonitis, obstruction of the bowel, etc.

That there are instances of recovery in ectopic pregnancy, without surgical interference, we are not prepared or disposed to dispute, for there being instances of recovery we have the testimony of men who by their wide experience are entitled to speak with some weight of authority. Numbered among these are the eminent English surgeons, Tait, Greg Smith, Taylor and others. Recoveries are reported by a number of American surgeons.

Our earlier gynecologic literature, that antedating our advances in abdominal surgery, abounds in the reports of cases where symptoms and conditions, the entire clinical history, could only be interpreted in our present light as ectopic pregnancy.

These cases augmented the statistics of every practitioner's mortality. They were classed under the head of hemocele. There has been very considerable useless groping around by surgeons in settling the nomenclature of this trouble. We are gradually settling into a common sense simplicity of terms. The symptoms, the actual perils of the condition bother us more

than those confusing, misleading or obscure names under which too many things medical and surgical pass or, to speak more accurately, stay. With names as with operations, the more simple and intelligible the better. Because exceptional cases recover, we can not afford the risks involved in delay, the long suffering, if not death, to which the patient is exposed. We can not determine in any given case the probability of recovery. We know this condition kills, that the only certain relief is good clean surgery and that in the hands of men with a prolonged surgical experience few die.

The word "variety" used in connection with ectopic gestation has very little practical interest to those of us whose sole object is to save life. Speaking for myself, from my own experience and observation, whatever may have been that of others, I have never seen in my own work, nor in that of Dr. Joseph Price (numbering together more than 175 cases), but one variety, that of tubal pregnancy. And I have seen them in all stages from the first to the tenth month, and have yet to see the first case developed in the broad ligament. I have seen the ovary stretched over and part of the capsule enveloping the child, which by some would probably have been called an ovarian pregnancy.

The symptoms of extra-uterine pregnancy are almost infallible. It is rare indeed for the symptoms of this condition to be taken as evidence of some other trouble, but it is not an infrequent occurrence for other conditions to be taken as extra-uterine pregnancy.

Lawrence Tait has made this subject one of such thorough investigation, and has taught us the lessons of his wide and successful experience, that it would seem that little aside from what he has said is worth saying. We can not do better than to follow his teaching and record as successful experiences. We can offer very little excuse for making mistakes in diagnosing this condition. There can be but two, ignorance or carelessness. It may occur repeatedly; it does occur that the practitioner recognizes the condition, but is without that surgical experience which would enable him to surgically deal with the condition. In this situation the duty is plain, that of promptly calling in the assistance of one as expert in the surgery of such cases as is at command. The duty is equally imperative upon the surgeon to promptly respond. Where the issue is one of life, no mere personal prejudices or questions of loss or gain should restrain or influence professional action.

As to those cases which go to term I will give my own opinion, deductions of my own experience. The possibility of these cases going to term is not disputed. Conclusions from my own observations may not accord with those of others of the profession. I have seen three cases at or near term. In each case the child was encapsuled in an amniotic sac and not in the broad ligament. My reasoning is that the fetus is

forced through the rent in the tube encapsuled in its amniotic sac. And if the placenta has sufficient attachment to continue the life of fetus until the placenta has made new attachments, the child continues to develop in its sac surrounded by the abdominal viscera, coming in contact with it, forming adhesions and in this way materially aiding and strengthening the walls of the sac. I am of opinion that the reason why we so often find the fetus absent in undoubted cases of tubal pregnancy is not only that the tube has been ruptured, but also the amniotic sac, and the fetus is forced into the general peritoneal cavity where a few days will suffice for its digestion.

As to just how soon the fetus can possibly be protected by the amniotic sac I am unable to say. I have found the fetus not longer than a Lima bean, but it was in those cases where the primary rupture and the operation for the relief followed immediately. It is rare indeed to find a child where there has been several attacks or several severe hemorrhages, but you find everything else, the ruptured tube, placenta and all that pertains to a ruptured tubal pregnancy save the fetus. I have seen a number of cases, from the second month on, where it could be clearly demonstrated that the child was within the amniotic sac. In this connection Tait uses the following language: "I have at the present moment lying in these very rooms a fetus of the full term which I removed from among the intestines, and round which nearly complete amniotic membranes were to be seen." I do not deem it possible that a child could live long at any period of gestation free in the peritoneal cavity. My conviction is that it would be encapsuled by the omentum or protected by an inflammatory barrier in some way. There are a number of cases on record, but there is very little to explain or show how long they had been so placed or how protected. Very many of the recorded cases give a very unsatisfactory clinical history and few of those interesting phases characteristic of these cases.

My case at term, reported some five years ago where both mother and child lived, was in the tenth month of gestation and in the amniotic sac. When the nurse attempted to wash the child she found that by the slightest rub of the wash rag she would take the skin off. The child would bleed from every point so touched, showing that the child was already being digested alive. The mother and child are today both living and well, the child a beautiful little girl. I will be pardoned here for a moment's digression. This case is reported in Gregg Smith's system of abdominal surgery as operated on by one Dr. Eastman, no one of the name known to belong to the profession of Philadelphia. This goes to illustrate the worthless character of the statistics of even eminent authority. This case is stated by Smith to be the only one in America where mother and child both lived. As to the manner of dealing with the placenta, where it is possible the placenta should be removed. Where it has not contracted adhesions outside of the pelvis, and involving bowel and mesentery in its attachments, there is probably less danger in its immediate removal than to treat it in any other way. It is only rarely that you can obtain a pedicle and control hemorrhage by ligature. The gauze pack is probably the only method in many cases by which hemorrhage can be controlled. Up to the beginning of the fourth month there is no trouble in controlling hemorrhage by ligature. From the fourth month on, hemorrhage is the

most serious complication. The second method of dealing with the placenta is what is called the open method of treatment, the one used in my case of term with the result of saving both mother and child. In this case, for thirty-five consecutive days, this woman with an abdominal wound six inches in length, with the amniotic sac stitched to the wound, endured daily the packing of the wound with from four to five yards of bichlorid gauze, this over the face of the placenta, covering a space as large as the rim of a man's hat. It was attached to everything from the left cornu of the uterus, descending colon and part of the transverse colon and over the entire face of the left kidney. The placenta was black and gangrenous in appearance and owing to the desperate condition of the patient, three determined efforts were made to remove the placenta. These efforts had to be abandoned on account of the frightful hemorrhage. Gauze packing in each instance stopped the hemorrhage at once.

On the tenth day, when the first attempt at removal was made, her temperature dropped to 96 degrees. The temperature chart indicated variations of temperature from 96 to 105 degrees; this for thirty-five days. At this time the whole left side of the body seemed to contract just as the uterus does in labor, with free discharge of blood. I at once removed almost the entire placenta, cutting it loose with the fingers just as we do from the uterus in a partially detached placenta, meeting with about the same amount of difficulty. There was free hemorrhage which was controlled by gauze pack. This immense opening had almost entirely closed in a week's time. I am positive that after my experience with hemorrhage, sepsis and other accidents incident to this manner of treating the placenta, I would not again resort to the practice of the open method and leave the placenta to slough away. It is out of the question to talk of removing the placenta in these cases at time of the operation, for the patient would beyond doubt perish from hemorrhage. I believe it to be better to cut short the cord, thoroughly clean the face of the placenta, remove all loose membranes and clot and close the abdomen, trusting to absorption, or later, when the condition of the patient indicates the necessity for a second operation. This impresses me as the safer procedure because it can not possibly offer any poorer chance for the patient than the open treatment. When the placenta is placed in the pelvis and is attached to either ovary, tube, uterus or pelvic wall, and it may only be slightly to abdominal viscera, the entire uterine mass can and should be removed at the time of operation at any cost, but when the placenta has formed attachments to vital organs and over a large surface, the patient would perish if removal of the placenta was attempted. These questions can only be decided by those who have many times dealt with such cases; it is nonsense to say that any surgeon can deal with the complications always possibly involved in this condition. He must be an abdominal surgeon trained by many experiences, with a knowledge of all the varying conditions met with in these cases and the surgical confidence to grapple with any possible emergency. The reference of these cases to those trained by special study, long clinical experience and observation brings no opprobrium upon the general practitioner, whose care is of the general public, the treatment of the more general ailments. His time and study are too much taken up for him to become expert in major operative procedures. The common diseases of women and children,

and obstetrics, one of the most important branches of medical practice, open a wide field for usefulness and honor. The wounded patient, whether by disease or accident, is entitled to the best skill.

In the report of nine cases in the London hospitals, in the later months of extra-uterine pregnancy, five perished, certainly a large mortality. These cases were probably in the hands of some of the best general surgeons in the world, but we should infer from the mortality that they were men not specially trained in abdominal surgery. In extra-uterine pregnancy there is no time for the discussion of symptoms, easy chair deliberations, for consulting the books or literature of the subject, collecting an armament of instruments—there is always urgency and there should always be readiness. Ninety-nine times in a hundred the operation is to save life from hemorrhage. Usually sufficient time has already elapsed to leave the patient pulseless and in collapse. This collapsed condition results from two causes: 1, from direct loss of blood; 2, from intraperitoneal pressure on the abdominal sympathetic nervous system. The urgent indications are the immediate stoppage of the hemorrhage. The only way to do this is to open the abdomen and tie the vessel; *no matter what condition of collapse the patient is in, so she is not actually dead.*

More than half the cases I have operated on have been pulseless at the wrist, and to all intents and purposes almost at their end. In many of these cases, as soon as the abdomen was opened and the ligature applied, the hemorrhage stopped, and after the great quantities of free blood in the peritoneal cavity, in many cases amounting to two or three quarts, was removed, there would be a moderately good pulse at the wrist. A statement made by Dr. Hobart A. Hare of Philadelphia may have some bearing in this connection. In a discussion, he called my attention to experiments he had made by forcible injections of water into the peritoneal cavity of a dog, and that it would kill him much quicker and with a very much smaller quantity of water than if injected into the bowel. I believe this goes to explain the quick recovery from the grave symptoms of ruptured extra-uterine pregnancy after operation. The hemorrhage is stopped and the pressure removed from the sympathetic nervous system. If the practitioner has not or can not diagnose a case in hand correctly, it is criminal for him to permit his patient to go on suffering while he refuses or neglects to call in advice. It is to be presumed that when a man operates for extra-uterine pregnancy, that he has made a diagnosis. There can be but little shock in an operation that involves only two inches of the abdominal wall, the delivery of the specimen and the application of the ligature. How is it possible for any one to justify delay when we compare this procedure with the actual condition of the patient, hemorrhage and intraperitoneal pressure, with everything pointing to speedy dissolution. Later, in the surgical treatment of this condition, say from the fourth month to term, before operation, there are questions to be considered more important than that of hemorrhage. We have then to consider the dangers during and after operation and how to deal with them. It is these very dangers and how to deal with them that have interested the profession. The later months with the attendant risks are anxious months for the patient and attending physician if real conditions are realized. The profession is not of one opinion as to the plan of surgical procedure and after-treat-

ment in cases of extra-uterine pregnancy when they have passed the fourth month.

I am of the opinion that no matter at what period of gestation a woman may be in, an effort should be at once made to end the pregnancy by surgical means, for there is not an hour that the patient is not in danger, and every day that the fetus is allowed to remain the risk to the patient is increased, and for that reason there should be prompt, unhesitating interference to terminate it.

The united surgery of the world has only been able to save from eight to ten children where these cases have reached term, with a mortality to the mother and an amount of suffering that by no possible argument, with the simple claims of humanity in the balance, could justify.

If the peritoneum can be left with everything removed, with a well-placed glass drainage at the lower point of the wound, the result will be perfect. If the hemorrhage can not be controlled without a gauze pack we should then depend on gauze drainage, which, while it will save life, greatly prolongs the after-treatment. The toilet of the general peritoneal cavity should be perfect. It should be faultlessly clean and kept so. If there has been contamination from any source there should be thorough cleansing with clean boiled water.

Case 1.—Mrs. Y., operated on Jan. 20, 1896, for extra-uterine pregnancy, supposed to be in the tenth week of pregnancy. About two quarts of liquid and clotted blood were removed at the time of operation. The child was partially digested. The patient made a good recovery.

Case 2.—Mrs. L., patient of Dr. Burroughs, Trenton, N. J. Operation April 19, 1896. Tube ruptured near its end. The placenta and about a quart and one half of blood obtained. Glass drainage for three days. Patient made a good recovery.

Case 3.—Mrs. S. S., patient of Dr. Edwards of Williamstown, N. J. There was not a very large quantity of blood, probably about a quart. Rupture had taken place several weeks before I saw her. Liquid portions of the blood had been absorbed. Fetus was not found. Placenta and tube were removed. Irrigation and glass drainage. Tube removed on the third day. Satisfactory recovery.

Case 4.—Mrs. T., patient of Dr. Hubler, Pittston, Pa., Dec. 5, 1896. Operation. A moderate quantity of blood, irrigation and drainage. Placenta, tube and ovary all removed. Recovery.

Case 5.—Mrs. W., patient of Dr. Shea. Extra-uterine pregnancy; about the twelfth week. The contents of sac suppurating. Patient septic. The sac, placenta and tube were removed. Irrigation. Glass drainage for four days. Recovery.

Case 6.—Mrs. L. G., patient of Dr. Nock, Philadelphia. Mrs. G. is a thick-set woman, twice married, and during her first marriage had a number of provoked miscarriages, some of which must have left the tube in condition favoring extra-uterine pregnancy. After her second marriage both she and her husband desired children, so were much pleased when the wife developed symptoms of pregnancy. They had been married three years when, as they supposed, this much to be desired accident happened. She missed her period on Jan. 11, 1897, followed by sick stomach and severe pain in the abdomen on or about February 15. She suffered with very severe pain in the abdomen followed by a weak faint feeling which sent her to bed. This condition was followed by a slight bloody discharge which continued to increase until March 16. During this time she had a number of these attacks of pain followed by a weak faint feeling, with constant tenesmus and desire to go to stool, but could not accomplish anything. On March 16 I was called to see the patient by the following note from her attendant, Dr. Nock: "I have in my opinion a case of tubal pregnancy with rupture. Can you come at once and operate?" I operated at once and found the conditions as stated by her attendant correct. The woman made a beautiful recovery. In this case no fetus was found; the rupture probably had forced the child into the peritoneal cavity and it was there digested. The placenta was living and adherent to the end of the tube.

Case 7.—*Extra-uterine pregnancy.*—Mrs. M. C., age 34 years; one child 5 years old, a boy; always a strong, healthy, robust woman; had one miscarriage; last menstrual period on

Nov. 28, 1896; December period missed. On Jan. 28, 1897, while washing her feet, she felt some little pain in the abdomen. After going to her room the pain increased, accompanied by symptoms of fulness in the bowels with severe tenesmus. She went to the water-closet feeling that the bowels must be relieved at once. Nothing passed from the bowel. The fulness and tenesmus increased. She made ineffectual efforts to relieve the bowel; this is the last she remembers. Her husband found her in a dead faint on the floor, very pale and pulseless. A physician was called who said she was suffering from peritonitis. The severe pain and distension of the abdomen he said all indicated peritonitis. From this time on until March 14, when I first saw her, she had a number of paroxysmal attacks of great pain accompanied with great weakness. There was a slight bloody discharge almost continuous after the first rupture in January. She had all the classic symptoms of extra-uterine pregnancy: Sterile for a number of years; a missed period; sick at the stomach; pains in the breast; intense pain with collapse and symptoms of hemorrhage, in the constant slight discharge of blood as in miscarriage, and at the end of the twelfth week a shedding of an entire cast of the uterus. At the end of the fourth month I was asked to take charge of her. Her condition was desperate. A weak thready pulse, a peculiar nervous condition so often found in these cases, bordering on insanity. She could not sleep and could not be persuaded but that death was impending. The physical examination revealed a tumor extending to the umbilicus, hard and tender and almost as a fibroid. The uterus was pushed back and fixed in the pelvis. The cervix was soft, open and bleeding as in miscarriage. The entire pelvis was filled up with the pregnancy and blood clot. She was at once sent to Dr. Joseph Price's hospital and, as soon as she could be prepared, with Dr. Price's assistance I removed the entire mass, capsule, baby, placenta and all.

I do not know whether the baby was alive when delivered. I rather think not from the appearance of the child, and it was the opinion of those present that it was dead. I do not know that the placenta was very much alive. Some bowel stitching had to be done and hemorrhage controlled by the gauze pack. The placenta was in front of the uterus and over the left tube and filled up the left side of the pelvis. No ligatures were used. The appearance of the gestation sac was that of muscular tissue adherent to everything it came in contact with; it had no connection with the broad ligament except at those points where it came in contact with it, as it did with other pelvic contents. I have seen three pregnancies at term and many others at different stages of pregnancy, and I have the first one to see that was located in the broad ligament, but I have seen a number that had the appearance of being so located.

The capsule had much the appearance of the thickened broad ligament. In many cases of operation for the removal of extra-uterine pregnancy, it has to be removed from under the broad ligament and not from within its folds. I have now had half a hundred of these cases in all stages of their development and have never found one in the folds of the broad ligament. This has been the experience of my brother in now nearly 150 of these cases, with many of which I assisted him; nor have either of us ever seen a case of hematocele in all our work.

This patient has made a most satisfactory recovery. As she recovered from her accident and the operation, her mental condition constantly improved so that at the end of ten days her mental condition was restored. I have seen the symptom of anxiety and fear amount to terror of approaching death so that some one had to be at the bedside to constantly assure them that all was going well with them. I had one case that this condition lasted for ten days, with every other symptom the most favorable. This patient cleared up as if a veil had been removed, and was as bright and happy as she was before miserable and unmanageable.

The child in the case just reported was in its own amniotic sac. I have seen three extra-uterine pregnancies at term, or so nearly that no one could say they were not. The children were all delivered alive, but two of them only lived for a short time and the other is living and now over 4 years old. They were all in the amniotic sac and the head of one was well up under the ribs. I do not believe that an extra-uterine baby can live any great length of time in the free peritoneal cavity. Those that do and go on developing have been forced through the rent in the tube and encapsuled in the amniotic sac with sufficient attachments. If the rupture in the tube ceases to bleed, the pregnancy goes on to term or operation or the death of the child or the mother, or both, more frequently both.

THE VAGINAL ROUTE IN OPERATION FOR RUPTURED TUBAL PREGNANCY.

Presented to the Section on Obstetrics and Diseases of Women at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

BY J. WESLEY BOVÉE, M.D.

GYNCOLOGIST TO COLUMBIA AND PROVIDENCE HOSPITALS, AND CLINICAL PROFESSOR OF GYNCOLOGY IN COLUMBIAN UNIVERSITY. WASHINGTON, D. C.

Ruptured tubal pregnancy has been so forcibly kept to the front during the past fifteen years, that many of the profession have been led to think it is a condition in which, without exception, the life of the individual suffering from it is in great danger. We are obliged to believe it is not so dangerous in many cases, and that quite often it escapes attention either from the little discomfort caused by it, or from the physician failing to realize the condition and procrastination allowing the absorption of the escaped blood. This latter variety can not include a very large percentage of cases however, or it would more often be found as a complication of other forms of pelvic disease. We have reason to think also, that occasionally Fallopian tubes are ruptured by over-distension from blood, not due to pregnancy, but mistaken for that condition. We have recently had such a case in our own practice.

It is not the purpose of this paper to deal extensively with the general subject of ruptured tubal pregnancy, but to mention particularly the variety best operated on through the vagina. It is that special variety in which the hemorrhage has not been the most severe, has been stopped by the outer pressure of the lost blood and in which the omentum, either alone or with other structures, has formed a barrier to its progress upward into the abdominal cavity, that we think can be best operated for through the vagina.

It manifestly would not be available to select the vaginal route to control hemorrhage from an ovarian artery, or to remove from the abdominal cavity a large amount of free blood. But for those cases in which hemorrhage has stopped and the free blood has remained in the pelvis and is retained there by a petition from nature, no other route is as safe, quick and efficient as the incision through the roof of the vagina behind the cervix. While this is not the only variety of ectopic pregnancy in which this route is satisfactory, we wish to limit our remarks to this one kind.

The clever work of Howard Kelly, Miller of Utica, Reynolds and others in this operation, is well known and leaves very little to be said concerning the technique of the operation. The paper that Kelly read