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REPORT OF THREE CASES OF RUPTURE OF THE UTERUS DURING LABOR;

AND A CONSIDERATION OF THE TREATMENT BASED ON TEN CASES.[1]

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RUPTURE of the uterus during labor is not as rare an accident as is generally believed. The statistics given in text books are unreliable. In 4,420 consecutive labor cases in the service of the Chicago Lying-in Hospital Dispensary there have been only 2 deaths, and these were due to rupture of the uterus during labor. The writer has seen 9 cases of rupture of the uterus sub partu, and one other occurred in his service during an absence. Three of these cases will be briefly reported and deductions made from a review of the ten.

CASE I.—Ipara, in the service of the Chicago Lying-in Hospital, aged 21; previous history of no significance; normal pelvis. Labor began October 12, 1901, at 7 A.M., and pains continued

[1]Read before the Chicago Gynecological Society, December 19, 1902.

until the next day, when, at 9 A.M., the membranes were ruptured. The uterine contractions were strong, the position L. O. A., yet no advancement was made. Patient was becoming exhausted, showed a peculiar pale, yellowish tinge in her countenance, but her pulse was good. At noon of the same day a forceps operation was done, under writer's guidance, by the interne. Episiotomy was necessary, and the delivery was easy, the child living. A severe hemorrhage followed and necessitated the delivery of the placenta. An internal cervix tear was determined, but, since the bleeding was profuse, there was no time to investigate its extent, and the utero-vaginal tract was firmly packed with lysol gauze. After the patient was put to bed severe symptoms of shock developed. Examination showed the uterus pushed up toward the liver by a firm mass above the pubis. This mass was hard, knobby, and evidently the gauze which had been packed into the cervix rent, seeming to be almost up against the skin. As there was no external hemorrhage and the patient seemed to hold her own, we decided to wait. The woman rallied slowly from the shock and recovered quickly. The gauze was removed in forty-eight hours, and on discharge no scar nor anchoring of the uterus could be determined.

That there was a rupture of the uterus in this case there is no doubt, but whether it was complete or not cannot be settled. The rupture probably occurred before the forceps operation and explains the hemorrhage which took place. The tampon, therefore, was just the right treatment.

CASE II.—Mrs. R., in the service of the Chicago Lying-in Hospital Dispensary; IIpara, Jewess, aged 34, normal pelvis. Patient had puerperal fever in her last confinement, following on injuries the result of brutal attempts with the forceps. Shortly after recovery from this three-months course of fever and suppuration, she became pregnant. Labor began between 1 and 2 A.M., the pains at first being strong and then weaker. She sent for medical aid at 3:20 A.M., and the interne arrived at 3:45 A.M. Before the interne arrived the waters had broken and an arm prolapsed, whereupon the patient went to bed. On arrival of the interne the woman was in collapse, pulse 120 and hardly perceptible. Dr. Holmes was sent for and arrived at 5 A.M., the writer following shortly after. The child lay scapula dextra posterior. Rapid decapitation was done, trunk and head easily delivered; then the placenta was removed from the cavity of a large hematoma at the left of the uterus. There was a trans-

verse lateral tear fully five inches long, to the left, above the cervix. The broad ligament was unfolded to cover a large hematoma, and whether this had ruptured into the peritoneal cavity or not we could not tell. Trial to sew up the rent failed because the field was inundated with blood, and, as the patient was dying, the uterus and rent were packed with gauze. Death occurred in thirty minutes.

CASE III.—Mrs. J., seen in consultation; IIpara, aged 26. Labor normal; diagnosis of O. L. P. was made and manual attempts to correct the position instituted. Failing three times in this, four attempts with forceps were made, alternating with five trials of version. The operations lasted about five hours altogether, and the child died during this time.

On arriving at the case the patient was in bad condition, pulse 160. She was in continuous pain, with great restlessness and anxiety. There was some hemorrhage from the vulva, which was swollen and black, each labium being the size of the wrist. The vagina was torn from the bladder, and it, with the cervix, hung in purple shreds. The finger passed up between the bladder and the uterus to the peritoneum. Head in O. D. A. and already crushed; could feel the bones crepitate; feet and cord alongside head. Craniotomy with trephine, extraction of head with cranioclast, easy; shoulders gave trouble, wherefore both clavicles were cut, but it was necessary to cut the sternum before the child could be extracted. Removed the placenta at once by hand, and discovered, in addition to the other lacerations mentioned, a large rupture of the right side of the lower uterine segment extending into the broad ligament to, but not through, the peritoneum. Passing across the space of this rupture could be felt strands of the subperitoneal connective tissue; anteriorly the round ligament passed across the vault, naked, but not torn, and above the contraction ring the peritoneum was dissected off the uterine body to the extent of two inches. A large amount of blood clots was evacuated from this space and a moderate hemorrhage followed.

The patient, although this whole procedure did not take twenty minutes, was in awful shape, her pulse being 180 when it became palpable. We feared she would die on the table, so the cavity of the hematoma was lightly packed with gauze, also the vagina, and as quickly as possible the patient was put to bed. She rallied after heat and stimulants were applied. A long course of fever followed, the cervix, parts of the vagina, and

base of the bladder sloughed out, a vesico-vaginal fistula developing. Large exudates formed on both sides of the uterus. Prolonged high fever, profound sepsis, but gradual and complete recovery, save for immense scars in the pelvis.

The other cases of rupture of the uterus referred to were briefly as follows:

CASE IV.—Rupture after head delivered, during delay in extraction of shoulders, and perhaps as a result of the manipulation. Expectant treatment. Death from peritonitis.

CASE V.—Spontaneous, complete rupture, in face presentation. Laparatomy; removal of fetid child and placenta. Extirpation of whole uterus. Death in three days; sepsis.

CASE VI.—Rupture of uterus during instrumental dilatation, for hemorrhage during pregnancy; escape of four-months fetus under peritoneum between bladder and cervix. Removed fetus, tamponed cavity; recovery.

CASE VII.—Rupture of uterus in neglected occipito-posterior position. Easy forceps; tamponade of large hematoma, which ruptured during great restlessness of patient. Died of shock and hemorrhage in forty minutes.

CASE VIII.—Rupture of uterus through bladder, vagina, and peritoneal cavity. Literally deserted by the physician who delivered her. Died while writer came into room; shock and peritonitis.

CASE IX.—Incomplete rupture occurring during a version. Living child. Tamponed rent, which was three inches long. Smooth recovery. Patient delivered twice since without difficulty.

CASE X.—Rupture occurring during transportation to the hospital. Delivery from below, tampon, and stimulation. Died in six hours from shock and hemorrhage.

Of these ten ruptures of the uterus, only three were in the practice of the writer, the rest being consultation or midwife cases. The three cases of the writer recovered without any complications, and two of these are known to be well.

In considering ruptures of the uterus there must be a sharp distinction between the complete and incomplete, the latter being tears that extend to, but not through, the peritoneum. The prognosis in incomplete tears is quite good, most of the women recovering; while with complete ruptures the majority of patients die, whatever be the mode of treatment.

The most successful method of dealing with incomplete rup-

tures is the tamponade of the rent. Gauze is lightly packed into the cavity under the peritoneum, taking extreme care not to injure this delicate covering. If the hemorrhage is profuse the gauze packing will probably not stop it, even if strong counter-pressure from the abdomen is made. It is usually impossible to control hemorrhage from below, and in these cases the abdomen must be opened and the broad ligaments and vessels clamped from above.

In the treatment of complete uterine rupture there are six methods to choose from, viz.:

1. Delivery of the child from below, and expectancy; ice bag on abdomen, ergot, opium—*i.e.*, symptomatic treatment.

2. Delivery of the child from below, tamponade of the rent and the uterus; then same as No. 1.

3. Delivery of child from below, sewing up rent as far as possible, and tamponade of the remainder.

4. Vaginal delivery, followed by extirpation of the uterus from below.

5. Laparatomy; removal of child and placenta; suture of uterus.

6. Laparatomy; removal of child, etc.; partial or complete extirpation of the uterus.

The first four methods presuppose the possibility of delivering the child from below. This is not always possible, or it may be inadvisable because of the danger of increasing the uterine lacerations. In cases of hemorrhage uncontrollable from below, and in cases of highly contracted pelvis, the laparatomy may become necessary. What to do with the uterus when the child, etc., have been removed depends on the conditions. If the case has been treated in a hospital and aseptically, the uterus may be closed with sutures or drained from below. If there is any suspicion of sepsis, the whole uterus should be removed, the peritoneum closed, and the subperitoneal space drained per vaginam. It is a question if the peritoneal cavity should be drained.

Rupture of the uterus is an accident that occurs almost always at the home, and it is a complication that should, if by any means possible, be treated where it occurs. No case of threatening rupture of the uterus should be transported from place to place, and if the patient is to be removed from bed to table great care and gentleness are necessary. One of the cases re-

ferred to died as a result of uterine rupture that took place during transportation by ambulance over rough pavements.

Since laparatomy is a very formidable operation in a private house and requires several hours for proper preparation, the accoucheur is right in choosing a method of treatment that quickest delivers the child, stops hemorrhage, and gets the patient into bed. This is all the more right since some large statistics[1] show that such courses offer a better prognosis than the abdominal methods, and other statistics show as good results by either method.[2]

Of the four methods of treatment in which the child is delivered from below, that offering the best results is the partial suture and drainage of the peritoneal cavity and the site of the rupture. Even in septic cases simple drainage offers much hope, but here the vaginal extirpation of the uterus is coming into vogue, and when the hemorrhage is slight the latter operation may be practised.

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