

EXPERIENCE OF VAGINAL DELIVERY OF SCARS AND UTERUS IN 50 CASES

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ABSTRACT

With the opening of Chinese two-child policy, the number of pregnant women with scars uterus will increase. Common causes of scar uterus are cesarean section, uterine myomectomy and so on. Since the scars of the uterus are prone to rupture, the safety of the mother and the baby is endangered, the scars and uterus are delivered again after caesarean section have become the focus of obstetrics. In our hospital ,from January 2015 to December 2017, we met 50 cases of vaginal delivery of scar uterus. The selection of a second-trimester delivery method for scared uterus is yet another technical challenge faced by obstetricians.

Keywords: Scar uterus, vaginal delivery.

1. The effects of re-pregnancy on the mother's body

- ① Rupture of the uterus: the scar in the uterus during the delivery process may not be able to withstand the increase of intrauterine pressure, which may cause uterine rupture.
- ② Postpartum hemorrhage: due to the scar tissue hyperplasia becomes brittle, hard, and easy to tear on both sides. Scars located in the lower uterine segment easily lead to uterine contractions, resulting in postpartum hemorrhage [1];
- ③ The incidence rate of placenta previa was significantly increased. Due to the dysplasia of the keloids, the incidence rate of placenta previa is also increased in addition to the scars that affect the early placental migration to the lower uterine segment.[2].
- ④ Scarring of the uterus caused by caesarean section can easily make maternal and family members worry about the risk of maternal and fetal life.
- ⑤ Increased complications of cesarean section: injury, infection, intestinal adhesions, intestinal obstruction, multiple surgical implantation of the endometrium abdominal cavity, endometriosis, incision healing and other surgery Increased complications [3]. At the same time, the incidence rate of preterm and neonatal prevalence and mortality will be increased.

2. Effect of uterine cesarean section on fetus

The data indicates that cesarean section does not reduce the perinatal mortality . On the contrary, neonatal complications and mortality are significantly higher than vaginal delivery [4]. According to relevant foreign reports, when the cesarean section rate rises above 15%, the perinatal mortality does not decrease correspondingly, however it shows a slight upward trend, such as infant suffocation, neonatal wet lung, neonatal respiratory distress syndrome, Pulmonary inhalation syndrome, decreased immunity, etc. [5]. Due to the scars of the uterus and the re-selection of cesarean section , uterine contractions and birth canal squeezing can not be undergone, thus the lung fluid has not been effectively removed and neonatal wet lungs are easily formed. When the fetal head is not squeezed by the birth canal during caesarean section, the fetus is removed from the uterus and suddenly stimulated by the outside air. Respiratory movements occurs rapidly, and it is not easy to cause the amniotic fluid and mucus in the mouth and nose after squeezing. Inhalation of airways, combined with

reduced synthesis of pulmonary surfactant, does not maintain the normal alveolar tension and aggravate the occurrence of neonatal wet lungs. The neonatal Apgar score is relatively low. The reason is the lack of birth canal extrusion process, cesarean section, and excessive fluid retention in the airway, reducing the volume of lung gas, affecting ventilation and ventilation, resulting in suffocation and hypoxia [6].

3. The safety of vaginal trial production of scar uterus

According to reports in the literature, the success rate of vaginal delivery after cesarean section was 52.2% to 74.4% [7]. In recent years, as the level of cesarean section surgery continues to increase, the aseptic technique has grown and the uterine incision healing has improved significantly. The application of various advanced technologies has led to the discovery of potential high-risk factors in a timely manner. Moreover, the hospital has a blood transfusion and surgery at any time which greatly reduce the rupture of the uterus. Domestic and foreign literature reports that the success rate of vaginal delivery after cesarean section was 33% to 91%. The success rate of TOLAC (vaginal trial production after cesarean section) was reported in different countries, ranging from 60% to 80%; Yokoi et al. [8] reported that the success rate of TOLAC in Japan was 91.5%, and the incidence rate of uterine rupture was 0.1% to 1.0%. And the risk of uterine rupture is higher than that of ERCS (selective repeat cesarean section), but the overall risk rate is less than 1%. Vaginal delivery after cesarean section is relatively safe, and the successful vaginal trial can avoid the harm caused by re-operation to the patient. For neonates, the incidence rate of perinatal complications is greatly reduced, and the patient's pain and economical burden was reduced to a large extent. Therefore, under proper conditions, full trial production opportunities should be given, but vaginal trial production indications should be strictly controlled. Comprehensive analysis of various conditions, the use of vaginal trial production of qualified pregnant women is safe and reliable.

4. Advantages of scar uterine vaginal delivery

Rapid postpartum recovery, low cost, fewer complications, small wounds, regular contractions of the uterus during childbirth, enabling exercise of the fetal lungs, favorable postpartum respiration, promoting lung maturation; contractions and birth canal during childbirth can reduce the incidence rate of neonatal wet lung and aspiration pneumonia.

5 scar uterus vaginal birth indications

- 1) The previous cesarean section was a transverse incision in the lower uterus. There was no laceration in the operation. The incision healed well and there was no infection.
- 2) The previous cesarean section indication did not exist, and no new cesarean section indications appeared. The pregnancy has vaginal delivery conditions.
- 3) There is no serious pregnancy complications.
- 4) Ultrasound prompts that the lower uterine segment is intact, the thickness of the scar exceeded 4mm.
- 5) The delivery from the previous cesarean section for more than 2 years.
- 6) Patients are willing to accept trial production and understand the advantages and disadvantages of vaginal delivery and re-cesarean delivery, the consent of mothers and their families agree to undergo vaginal trial production.
- 7) Hospitals need to have timely surgery, blood transfusion and rescue conditions.

6. Scar uterus vaginal delivery contraindication

- 1) The lower uterus longitudinal incision or surgical method is unknown.
- 2) From the previous cesarean section < 2 years.

- 3) There are serious internal and surgical complications .
- 4) Multiple pregnancy is not lower than the fetal position.
- 5) Ultrasonic diagnosis of uterine scar placental attachment.
- 6) Mothers and their families refused to attempt production.
- 7) There are no conditions for cesarean section and blood transfusion and saving the lives of mothers and infants at any time.

7. Ultrasound diagnosis and treatment

Ultrasound diagnosis is divided into three levels. Grade I scar refers to the absence of thinning in the lower uterine segment and can be used for vaginal trial production; Grade II scar refers to the thinning and loss of continuity in the lower part of the uterine anterior wall, but no fetal hair or fetal lipid spots are seen. Meeting the conditions of scar uterine vaginal trial production, vaginal trial production of scar uterus can be performed under strict supervision of ultrasound diagnosis . If indication appears during cesarean section , uterine surgery ought to be undergone in time. III scar refers to the lower uterine segment is thin or missing , visible for fetal hair, cesarean section needs to be scheduled to avoid sudden rupture of the uterus during the birth process, which will bring life-threatening to the mother and child.

8. The time of re-pregnancy with scar uterus

With regard to the issue of the time of second pregnancy after the previous cesarean section, there are reports that foreign persons have a history of pregnancy of 6 months or 1 year abroad [9]. Studies have suggested that women with scarred uterus should be pregnant again for at least 2 years after cesarean section. The traditional view is that people who want to re-pregnancy should to be recovered after 3 to 5 years after the cesarean section. The postoperative pathological study of scar uterus revealed that fibrous connective tissue was more common in 6 months after cesarean section and granulation tissue was seen after 6 months . Muscle fibroblasts in granulation tissue can play a role in smooth muscle. Within 2-3 years, the content is the highest, and then gradually mechanized, and the ability to expand and contract is weakened. However, the healing of the uterine incision is not the ?that the longer the postoperative time is , the better the healing will be, and the best time for the uterine incision to heal is 2-3years after the operation. Since then, the degree of muscle scarring of uterine scars is getting worse and worse and gradually degenerated, the scar tissue loses its elasticity, and the possibility of rupture of the uterus increases accordingly [10]. Wang Yunxia et al. [11] showed that it is safer to start pregnancy after 1 year of cesarean section, and the risk of uterine rupture is significantly increased after 8 years and more than 10 years after surgery.

9. Perinatal management

9.1 Strengthening Management during Pregnancy:

- 1) Strengthen management of pregnancy care and high-risk pregnancies, systematic management of people with scars and uterus re-pregnancies, comprehensive review of pregnant women's medical history, physical examination and past medical records, establishment of high-risk files, guidance during pregnancy, abnormal treatment in a timely manner.
- 2) Make a good evaluation of vaginal trial production. Learn more about the last operation, such as surgical indications, surgical methods, and neonatal outcomes; determine whether there are abnormalities in the bone birth canal, the soft birth canal, and the fetus through vaginal examinations; improve various tests; and understand the condition of scars in the lower uterus by B-ultrasound.

3) Maintain good communication with pregnant women and their families, inform them about the feasibility and relative safety, risk, and complications of vaginal delivery, obtain patient's understanding and support, and sign informed consent.

9.2 Strengthen management of labor process:

1) Experienced doctors and midwifery technicians closely observe the changes in labor and fetal heart rate, and regularly check the tenderness of the lower abdomen and the degree of cervical ripening. This is a sensitive indicator of whether the lower uterine segment can tolerate stretching. 2) Continuous fetal monitoring in vitro. No pelvic cavity, no risk of rupture of the uterus, the risk of uterine rupture, abnormal fetal heart rate and disappearance; persistent, sudden full abdominal pain, shoulder and back pain; fetal exposure and retraction, the contractions disappear. The uterine contraction pain becomes "continuous". If symptoms of uterine rupture are suspected, cesarean section should be performed immediately.

3) Application of Oxytocin: Oxytocin is forbidden for scarring uterus. As long-term labor has caused the uterus to contract and weaken, many pregnant women are forced to give up trial production.

4) The second stage of labor forbids abdominal pressure. If necessary, midwifery can shorten the second stage of labor, which can effectively prevent uterine rupture.

10 Induction of labor and cervical ripening

Induced labor in the vaginal delivery of scar uterus mainly includes:

1) mechanical induction of labor. Maternal placement of cervical sac was performed with a water injection of 30-80 ml and a placement time of 24 h. Sarreau[12] studied 151 cases of VBAC success rate was 53.7%, only 2 cases of mothers ruptured the uterus.

2) Oxytocin. In recent years, it has been reported in the literature that pregnant women with a history of caesarean section use oxytocin in trial production is a reasonable choice. Using a dose of <20 mU/min did not increase the risk of rupture of the uterus and increased the TOLAC success rate. In a case-control study of 25,005 cases of scars in 17 hospitals of Macones et al. [13], the TOLAC success rate was 75.5%.

3) PG formulation. In our guidelines, PG preparations are listed as a contraindication to labor induction. RCOG (The Royal Society of Obstetricians and Gynecologists) allows the use of PG preparations in cases where maternal conditions are fully assessed and associated risks are informed [14].

4) phloroglucinol. Maternal contraction periodically enters into the incubation period, the cervical Bishop score is less than 3 points, and phloroglucinol 100mg is added to 5% glucose 100ml fast static point (in 20min); when the cervix is opened 3cm, it is 30min after the artificial membrane is ruptured again with the same method which quickly static point pyrogallol 100mg.

5) Acupuncture combined with moxibustion Sanyinjiao. Maternal women take a supine position and routinely take needles to disinfect them, take acupuncture points at Hegu, Sanyinjiao, Zusanli, Jiebian and Sanyinjiao for strong stimulation. The rest is moderately stimulating. Involuntarily, 2 to 2.5 inches, intermittently retaining needles for 25 to 35 minutes; after the end of acupuncture, moxibustion intervention was performed to take a supine position, and acupoint Sanyinjiao, and a multifunctional moxibustion device was used to fix the two moxibustion heads on both sides of Sanyinjiao. The temperature is set to be warm and no burning sensation is appropriate for 30 minutes. The research of Yang Liu et al. [15] showed that Chinese acupuncture combined with moxibustion Sanyinjiao therapy is superior to oxytocin in terms of promoting cervical ripening and induction of labor in full-term pregnancy, which can effectively shorten maternity and reduce the incidence rate of caesarean section. At present, researches on establishing a successful TOLAC model are ongoing, and many domestic scientific experts hope to screen maternal women eligible for

TOLAC by establishing models to reduce the incidence rate of uterine rupture and improve maternal and child outcomes.

In short, the scared uterus is delivered again. After exclusion of the contraindications for vaginal delivery, trial production opportunities can be given. It is necessary to learn more about the medical history and conduct a comprehensive systemic examination. After a comprehensive evaluation, we choose the appropriate mode of delivery, closely observe the progress of the birth process, prepare for emergency rescue at any time, and cite induction of labor and cervical ripening methods. The pregnant woman and her family should explain in detail the feasibility, safety, possible complications, and countermeasures of vaginal trial production so as to eliminate the psychological concerns of pregnant women and their families, so that pregnant women can understand the cooperation with health care workers in the delivery process and improve the success rate of trial production.

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