Trial of labor in women with two previous caesarian sections: a challenge

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ABSTRACT

Introduction: A trial of labor after a cesarean (TOLAC) section is a maternal choice with previous caesarian section. However, for those with 2 previous scars, there are pros and cons to allowing the patient for vaginal birth after cesarean section (VBAC) in view of increasing complications. The incidence of SC in Indonesia has been increasing over the year. In addition, several studies have shown an increased risk of problems in subsequent pregnancies in mothers with a history of cesarean section. Thus VBAC in 2 previous scars becomes an alternative choice for a certain patient.

Case Illustration: We reported 3 cases of TOLAC; Three of the cases were planned for vaginal birth after cesarean section (VBAC) since prenatal period. Case 1: A 30-year-old woman, G3P2, 39 weeks with two times previous cesarean section. Cardiotocography was normal. The patient was closely monitored the signs of uterine rupture during labor, and after 7 hours, she had a successful VBAC without complication. Born female baby with body weight 4000 with a good, mother and baby were in good condition. Case 2: A 38-year-old woman, G6P4A1, 41 weeks pregnant with two previous vaginal deliveries and had two previous CS before the current pregnancy. The patient was closely monitored of vital signs and signs of uterine rupture. Cardiotocography is normal. After 8 hours later, she had a successful VBAC without complication, born a male baby with a body weight of 3500g, with good APGAR score. Case 3: A 35-year-old woman, G3P2A0, had two previous CS admitted at 39 in the latent phase of labor with a cervical dilatation of 2 cm. The labor progressed to second stage after 9 hours. After a hour attempted to conduct delivery, the fetus was still not delivered. Catheterization was performed and found haematuria and preceded with emergency C-section due to suspect a uterine rupture. Intraoperatively, the uterine rupture was noted at lower anterior of uterine corpus size 2x1 cm and a repair was performed.

Conclusion: VBAC can be considered in patients with two previous c-sections with after proper selection, close monitoring and adequate counseling. Prenatal care is a concern for pregnant women to prevent complications and reduce maternal and fetal morbidity and mortality. The VBAC decision returned to personalization and adequate assessment and counseling are mandatory.

Keywords: labor trial, cesarean section, outcome.


INTRODUCTION

The incidence of SC in Indonesia has been increasing over the year. In addition, several studies have shown an increased risk of problems in subsequent pregnancies in mothers with a history of cesarean section. Prenatal care is a concern for pregnant women to prevent complications and reduce the incidence of morbidity and mortality in mothers and fetuses. This concern includes health promotion, treatment risks, and interventions against risks and conditions that are not accommodated.¹

CASE ILLUSTRATION

CASE 1

A 30-year-old woman, G3P2, complained of contractions felt 6 hours before admission. The patient was nine months pregnant, corresponding to 39-40 weeks of pregnancy. During this time, the patient had ten times routine pregnancy control and had two previous CS before the current pregnancy. The screening of urinary tract infection (UTI) was performed regularly to avoid mother still wants to try vaginal delivery. The screening of urinary tract infection (UTI) was performed regularly to avoid the complications such as preterm birth and premature membrane rupture.

There was no family history of diabetes, asthma, and hypertension. Regarding her obstetric history, the patient had the first cesarean section during delivery of the first child 7 years ago, at the age of 22 years old, weight 3500 grams for indication post date not in labour. The second pregnancy 4 years ago for indication of a previous CS, delivered a girl baby weight 3600 gram.
The patient has never used contraception, the husband works as a private employee, and the patient was a housewife.

On the physical examination, the patient had a normal Body Mass Index (BMI) with the height was 158 cm. Vital sign and general physical assessment on admission were normal. The uterus distended which corresponded to her date, there was no scar tenderness found. The patient was in head presentation with 3/5 palpable, fetal heart rate (FHR) was 145 beats/min, good contraction with estimated fetal weight was 3,600-3,800 grams. The vaginal examination found 3 cm dilated, putting her in latent labor. Cardiotocography showed a reassuring. Laboratory examination of full blood count was in normal range, coagulation profile was normal, random blood sugar was 112 g/dl, normal, and HepBAg screening was non-reactive. Ultrasound examination found normal fetal growth with fetal parameters 39-40 weeks and adequate amniotic fluid. The patient was closely monitoring vital signs and signs of uterine rupture during labor. Urine catheterized every two hours and was clear. After 7 hours, she spontaneously progressed to the second stage and delivered the baby. Born female baby with body weight 4000 grams. The vaginal examination found normal findings with normal amniotic fluid. The uterine rupture at the anterior corpus of the uterus size 2x1 cm closed by omentum.

On the last ultrasound examination, it was said that the fetus was in good condition. There was no sign of abnormal placenta. Screening for UTI was normal. Adequate assessment and counseling to rule out any complications and contraindications were done and she was allowed for VBAC with closed monitoring at the tertiary hospital under supervision of an obstetrician. The first pregnancy was delivered via CS due to fetal distress, weighing 3400 grams 7 years ago and the second child was delivered via CS in view of 1 previous CS 4 years ago weighing 3700 grams. Both the patient and her husband were civil servants.

On the physical examination, we found a generally good condition, weight 50 kg, height 155 cm, Body Mass Index was normal. The uterus enlarged corresponded to her gestational age with fetal head presentation, 3/5 palpable, FHR: 146 x/min, a good contraction. The vaginal examination showed cervix opened 2 cm dilatation, the fetal head at the hodge III. The cardiotocography and laboratory test within normal limits and ultrasound found normal fetal weight 3525 grams. Adequate amniotic fluid, good FHR. She was closely monitored during intrapartum, after 6 hours, the labour progressed to second stage of labour. The delivery was conducted, however after 1 hour the baby still not delivered yet, and the fetal head still at the hodge III. The urine was checked out and showed haematuria and The emergency CS was planned for

CASE 2
A 38-year-old woman, G6P4A1 at 41 weeks, complained of having contractions 8 hours before admission. There were no other complaints and the fetal movement was good. The first and second children delivered via vaginal delivery and had 2 previous caesarian sections in the fourth and fifth pregnancy because of premature rupture of the membrane and previous CS subsequently, her last child birth was 2 years ago. She regularly has routine control of her pregnancy every month and is told it is uneventful. Screening for UTI done regularly to rule out asymptomatic of bacteriuria. Counseling regarding the planning of VBAC was given by obstetricians after ruled out other contraindications. She was allowed to do trial of labour with closed monitoring and suggested at the tertiary hospital. The patient has never used contraception, the husband works as a private employee, and the patient is a civil servant.

The general and physical assessment showed normal findings with normal BMI, her height was 158 cm. The uterus corresponded to her date, fetal head presentation with 3/5 palpable and there was no scar tenderness found. Vaginal examination revealed 2 cm dilatation. Cardiotocography was reassuring. The laboratory test was within normal limits. She progresses to second stage of labour after 5 hours without any sign of scar dehiscence. Urine was checked 2 hourly and clear. She was monitored closely during intrapartum, progressed to second stage after 5 hours spontaneously, and had a successful vaginal delivery. Her baby weight was 3.300 gram, good APGAR with stage one perineal. The mother and baby were discharged well after 2 days with good condition.

CASE 3
A 35-year-old woman, G3P2A0 at 39 weeks of pregnancy, who had 2 previous CS, complained of having contractions 12 hours before admission. During antenatal period, she had six times antenatal care with signs of uterine rupture during labor. Urine catheterized every two hours and was clear. After 7 hours, she spontaneously progressed to the second stage and delivered the baby. Born female baby with body weight 3700 grams. The vaginal examination found cervix opened 2 cm dilatation, the fetal head at the hodge III. The cardiotocography and laboratory test within normal limits and ultrasound found normal fetal weight 3525 grams. Adequate amniotic fluid, good FHR. She was closely monitored during intrapartum, after 6 hours, the labour progressed to the second stage of labour. The delivery was conducted, however after 1 hour the baby still not delivered yet, and the fetal head still at the hodge III. The uterine rupture at the anterior corpus of the uterus size 2x1 cm closed by omentum.
indication of suspected uterine rupture. Intraoperative findings. The lower segment of caesarian section (LSCS) was performed and the baby delivered successfully with normal APGAR. However it Shoveed active bleeding from the wall of the uterus. The exploration was done and found uterine rupture at lower anterior corpus of uterus size 2x1 cm closed by omentum (Figure 1). The repair was performed with double layer suture. The contraction was good. Postoperatively, she and her baby were in good condition and discharged after 2 days of caesarean section.

DISCUSSION

In this case series we found that 2 cases had successful VBAC with any complication and one case had uterine rupture during intrapartum. The three of patients had been planned for VBAC during antenatal period after adequate assessment was performed during antenatal care to rule out any contraindications for VBAC. A 2010 practice bulletin from the American College of Obstetrics and Gynaecology about VBAC stated that most women with a history of one lower segment Caesarian section (LSCS) are good candidates for VBAC after adequate counseling was given.¹ The Evaluation regarding to the indication of the previous CS is important to estimate the successful VBAC in current pregnancy. A good candidate for successful try of labor in VBAC is the patient with non-recurrent indication on the previous cesarean section such as 75% in the case of malpresentation, 60% of fetal distress, and 54% in the case of cephalopelvic disproportion.² Compared to the one previous CS, the risk of uterine ruptures increased from 0.4%-0.5% to 0.7%–0.9% in the 2 previous CS.³

Patients with transverse lower segments of the uterus have a lower risk of rupture than those who had other types of insinution. Therefore the classical cesarean sections, T insinution of the uterus, and complications that occurred in the past cesarean sections, such as a large laceration cervix, are contraindicated to VBAC. According to the Royal College of Obstetrics and Gynaecology, patients with 2 previous LSCS are allowed to undergo vaginal birth after cesarean as long as they have received counseling from an obstetrician and have given informed consent regarding the risks of uterine rupture even to hysterectomy and maternal and fetal death.³

A study conducted on 300 patients with a previous CS found that VBAC in women with a previous CS without complication considered safe and successful delivery was 60% to 80% of cases. The incidence of complications was estimated to be between 0.05% and 1.09%. This study reported that spontaneous delivery and cervical dilatation of more than 4 cm accounted for 80% of successful vaginal delivery.²

The uterine rupture in pregnancy is defined as a complete disruption of all uterine lining during pregnancy. Risk factors for uterine rupture are advanced maternal age, late pregnancy, macrosomia, short interval of delivery, closure of the uterine lining with a single suture technique, pregnancy with previous cesarean section more than two times, and the trial of labor after cesarean section and a history of surgery such as myomectomy, which associated with weakness in the uterus due to uterine trauma.⁴ Patients with more than one previous have a higher risk of uterine rupture. Uterine rupture in The number of previous CS was 1.8 - 3.7%. Patients with two-time cesarean sections have five times the risk of uterine rupture compared to those whose one previous CS.⁴

The lower segment of the uterus consists of the uterine isthmus and the inner portion of the cervical os, which forms in the 3rd trimester and consists of a muscular layer. During labor, the upper portion of the uterine segment is periodically active, undergoing progressive retraction. The lower uterine segment stretches and becomes thin. It suspects that differences in physiological changes in the upper and lower parts of the uterine segment with uterine contractions cause differences in the characteristic and outcomes of uterine ruptures in pregnancy. If the uterine rupture occurs, the fetus, umbilical cord, placenta, or baby will go out of the uterine tear and into the abdominal cavity. This will cause bleeding in the mother, fetal distress, and fetal death. Sometimes an emergency hysterectomy is necessary.⁵

One of the risk factors for uterine rupture is the large baby’s weight (macrosomia). Based on the mother’s weight. Women with a history of > 4000 grams, have a high risk of macrosomia in her pregnancy.⁶ In addition, Robust prediction for macrosomia babies is the mother’s weight during pregnancy in patients with diabetes mellitus or not, thus the BMI and pregnancy with increased weight are associated with the risk of macrosomia in neonatal. However, the impact of maternal body weight was more significant in patients who had gestational diabetes mellitus therapy than in patients with normal glucose tolerance levels during pregnancy. This effect appears to be exacerbated by various risk factors for gestational diabetes mellitus, such as primigravida, with a heavy body mass index and weight gain during pregnancy. In this case, the women who received treatment for gestational diabetes mellitus, the baby weight were more extensive and heavier than the women without diabetes mellitus.⁷

Exploration of history during antenatal care is important to be collected for administration and identification of risks to the mother and babies in planning of VBAC in women with previous CS.⁵-¹⁰ Prenatal care is a concern for pregnant women to prevent complications and reduce the incidence of morbidity and mortality in mothers and fetuses. This concern includes health promotion, treatment risks, and interventions against risks and conditions that are not accommodated. All these activities require cooperation, effort, and coordination from women, families, prenatal care providers, and other specialist providers.

CONCLUSIONS

VBAC can be performed in patients with two previous CS is allowed at the tertiary hospital after excluded other contraindications and eligibility of the women for VBAC with close monitoring and supervision during intrapartum. Patients with more than one cesarean section have a higher risk of uterine rupture. The decision of VBAC is personalized and adequate assessment and counseling are mandatory to reduce and avoid maternal and fetal morbidity and mortality.
CASE REPORT

PATIENT CONSENT
The patient agreed and signed informed consent before the study and agreed that the case would be published in an academic journal without revealing the patient's identity.

DISCLOSURE OF CONFLICTS OF INTEREST
The authors declare no conflict of interest.

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AUTHOR CONTRIBUTION
All authors contributed significantly to the study from the conceptual, data acquisition, data analysis, and during manuscript preparation.

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