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Successful uncomplicated vaginal birth in patient with 4 previous cesarean sections at obstetrics and gynecology hospital in Damascus, Syria: A case report

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Abstract

Background: Since the vaginal birth is the best recommended rout of delivery with a lower mortality and morbidity for mothers and babies compared with repeat CS, a successful vaginal delivery after one or more cesarean sections has been reported, but the risks and benefits of trial of vaginal labor should be determined previously.

Case presentation: In this study we report a case of 30-year-old woman with 4 previous cesarean sections who was admitted with preterm labor, the fetal head was crowning so it was safer to proceed with vaginal delivery. Although the baby was preterm there was no maternal and neonatal morbidity and mortality and the uterine scar was intact.

Conclusions: VBAC may be suggested as an option to lower CS and its complications especially in low resources countries, after doing risk-benefit assessment first.

Keywords: Cesarean section; Vaginal birth; VBAC; TOLAC; Risks; Benefits; Case report.

Abbreviations: CS: Cesarean section; VBAC: Vaginal birth after cesarean; TOLAC: Trial of labor after cesarean.

Introduction

The optimal mode of delivery for women with previous multiple Cesarean Sections (CS) has been debated. On the other hand, the Cesarean Section (CS) has been the most frequently performed operation [1] and elective repeat cesarean has been the most common cause for performing this operation.

This was associated with increased maternal morbidity because of the increased number of CS this leads to abnormal placentation, cystotomy bowel injury, ureteral injury ileus and massive maternal hemorrhage which is the most common cause to hysterectomy [2,3].

These complications have increased the interest in determinants of successful trial of labor after a previous cesarean delivery. Although the safety of vaginal birth after a single cesarean section delivery has been documented in recent publications [4,5,6], the safety of cesarean delivery after two or more cesareans is not clear. Thus, the major risk of conducting a vaginal delivery after cesarean section is uterine rupture [7] which is an obstetric emergency with high numbers of maternal and neonatal morbidity and mortality [8].

Finally, it is important to assess the different risk factors and benefits before considering the optimal route of delivery, especially the history of a prior cesarean birth.

Case presentation

We describe the case of a 30-year-old woman who was admitted to the labor ward at Gynecology and Obstetrics Hospital

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in Damascus complaining of regular uterine contractions. She is gravida 7 para 4 and has four living full term children, all of them delivered by cesarean sections and she had two miscarriages.

The patient had a planned cesarean birth for her first baby, the second one was an elective repeat cesarean section and it was done in 2013, the third was in 2016 and the fourth in 2020, the type of uterine incisions were unknown, no significant medical, family, and psychosocial history.

In the current pregnancy, the patient was 34 weeks gestation age experiencing preterm labor, afebrile, and had a history of mild uterine contractions which started 3 days ago and increased in intensity during the last hours with sensation of slow fluid trickle from the vagina. She had taken one course of dexamethasone during the 32nd week of gestation.

The abdominal ultrasound showed: normal pregnant uterus contains a single living cephalic presentation fetus and a fundal lying placenta, fetal parameters were: BPD: 34.2w-FL: 34w - FHR: 147 bpm. She had regular uterine contractions with stable vital signs: blood pressure of 110/70 mm Hg, and a heart rate of 92 beats/min.

By vaginal examination the cervix was fully dilated and effaced, fetal station was +4, with ruptured membrane; an intravenous line was established and blood sample was taken for cross matching, her hemoglobin was 11.5 and CRP 7.4.

Anesthesia staff was notified that an emergency cesarean section might be necessary. Her consent was taken to deliver her vaginally and perform an episiotomy as there was no time to perform a cesarean section.

An elective mediolateral episiotomy was performed and a female infant weighing 2200 g was born (apgar scores were 4 and 8 at 1 and 5 minutes respectively). The uterine scar was intact on manual examination and the episiotomy was repaired, the postpartum period was without any complications.

Unfortunately we did not have the time to measure the thickness of the lower uterine scar; however when performing postpartum transvaginal ultrasound the full thickness of the lower uterine segment was 5 mm and the myometrial thickness was 3.13 mm Figure 1.

We have done serial CBC measurements every 6 hours. She was hemodynamically stable and was discharged home with her infant on postpartum day 2.

Figure 1: Vaginal ultrasound: The uterus is homogeneous and a fibrous scar from the previous cesarean section was seen on the anterior part of the uterus, themyometrial thickness measured 0.5 cm.
A clear liquid exudate was seen within the endometrium.
The endometrium measured 0.5 cm, not thickened.
A free fluid exudate was seen around the uterus.

Discussion

Because of the increasing rate of cesarean section globally in the last years [9], affected by the fact that prior cesarean delivery is the common indication to repeat cesarean section, the famous dictum by Craigin "once a cesarean always a cesarean" [10] making the cesarean section the most common surgical procedure in many countries (guise) and the quick decision when performing the first cesarean [11], even so repeating the cesarean section has led to many short and long term maternal complications (bowel or bladder injury, infection, placenta Previa, placenta accrete spectrum and even the need to do hysterectomy which is increased with increasing number of cesarean deliveries) [12,13] all of these rise the attention about trying vaginal birth after cesarean [14], and several studies have been conducted trying to provide proof that vaginal delivery can be safe after a single previous cesarean section [5,6].

But before making the decision to do TOLAC, physician should know pros and cons of TOLAC and the accurately candidates for it.

In successful TOLAC (VBAC) the patient will be able to move and will be discharged earlier after delivery with lower rate of infection, hemorrhage and thromboembolism compared to elective repeat cesarean and it reduced the surgical complication and abnormal placentation due to multiple cesarean delivery [12-14].

On the other hand when TOLAC attempt fails more complications will be developed compared to cesarean section [12].

The uterine scare rupture is one of the fatal rare complications of TOLAC, and may associated with fetal distress and need to emergency cesarean, uterine repair or even hysterectomy [15]. The incidence of uterine rupture in women with previous CS ranges between 0,2-1% and related to the interval between CS and VBAC. Asgarian, et al. recommended that the interval between 2-4 years is the best interval time to achieve a successful VBAC [16], in our case the interval between the last cesarean and the vaginal delivery was 3 years and it is considered sufficient.

Vaginal bleeding, loss of fetal station, increased uterine contractions, new onset of intense uterine pain and fetal bradycardia are various sign and symptoms of uterine rupture, and as the abnormality of the fetal heart rate is the most common sign that indicate to uterine rupture, it is recommended to do continuous fetal heart rate monitoring during TOLAC [12].

Zhang et al. reported increasing uterine rupture risk when using Oxytocin to induce labor in TOLAC compared with the

spontaneous onset of labor [17].

I. Hudic et al. did not find that the single-layer uterine closure way might increase uterine rupture in VBAC [18].

Whereas the neonates who were delivered by CS are at increased risk of breathing difficulties, decreased likelihood of breastfeeding and may need special care unit admission. Many studies which have followed children who delivered by CS show increased rates of asthma, atopy, obesity and behavioral problems as a long term consequences [13-20]. Whereas the complications of VBAC failure on neonate were brachial plexus injury, hypoxic-ischemic injury to the fetal heart, gastrointestinal tract, kidneys, and brain following uterine rupture and mortality risk [20].

Macones, et al. found that the major complications is higher with a VBAC attempt in women with 2 prior cesarean deliveries compared with those with a single prior cesarean delivery and the relative risk is increased compared to those who opt for a repeat cesarean, but the absolute risk of major morbidity is small [7].

Bretelle et al. concluded that trial of labor with strict management guidelines among patients with history of two cesareans is an acceptable alternative compared to elective repeat cesarean [21].

In our case the patient was not vigilant about her uterine contractions so she did not seek medical help which resulted unfortunately in admitting her with preterm labor with full cervical dilatation and effacement. Fortunately delivery went on uneventful; the uterine scar was intact by manual examination.

There are scarce studies on the safety of vaginal delivery of 3 or more cesarean section however Lawson and Sharma have reported a successful vaginal birth after 3 previous cesarean sections [10-22], Rivain 1961 mentioned that 7 women out of 16 with 3 previous cesarean sections and 2 out of 5 patient with 4 previous cesarean went on to have vaginal delivery successfully [23].

It is important to keep several factors in mind before considering vaginal delivery in woman with previous cesarean sections:

The type (should be previous low-transverse uterine incision) and number of previous cesarean sections, the original indication for the operation, is it recurrent or not, gestational age (should be 40 w ≥), fetal presentation and estimated fetal weight (should be 4000 g ≥), the interval between CS and VBAC, advanced mother age, obesity, is there any previous vaginal delivery [24,25]. Preterm delivery was associated with greater VBAC success rate [24]. Our patient was in her 34 week of gestation (preterm) which served as a positive factor in achieving the vaginal delivery safely, measuring the myometrial thickness can serve in predicting uterine defect occurrence during VBAC, and thus when the thickness is between 2.1-4.0 mm the risk of defect occurrence is low, compared when the thickness is between 0.5 and 2.0 mm.

Some studies reported TOLAC success rate between 68% - 83% [14-26] and this rate increases when there is a history of previous vaginal delivery [24-27].

Therefore, a risk-benefit assessment should be done individually in each woman with a history of previous CS to evaluate the likelihood of successful TOLAC [27], discuss TOLAC attempt with the woman and provide her with evidence-based information about benefits and risks of VBAC [28].

In our case the delivery was very close and there was not time to monitor fetus, even so it is important to monitor both the mother and her fetus very closely by experienced team and to be ready to perform an emergent cesarean section in any time [29].

A mediolateral episiotomy was performed to facilitate labor and birth as the women had no previous vaginal delivery, a manual examination to the uterine scar was done even so it is not recommended and rarely carried out now [30].

In Syria, where there is a growing economic crisis and problems in providing good medical services, the VBAC may form a new cheap and safe option to decrease the number of unnecessary and repeated CS and lower cesarean section complication, thus the health care providers should consult parents about conducting VBAC and provide them with the suitable information to make a decision.

Conclusion

TOLAC may be suggested in patient with prior cesarean sections history especially in low resources countries and when the delivery is expected minutes later but it is still controversial, so a risk-benefit assessment should be done to predict the success of TOLAC, and make the vaginal delivery safe choice by estimate the risks and benefits individually.

Syrian health care providers should present VBAC as possible delivery option in order to lower CS and its complications.

Declarations

Consent for publication: Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval and consent to participate: The study is exempt from ethnical approval in our institution

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Availability of supporting data: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Authors' contributions: Wessam Taifour, Ali Deeb, Nour Alabbas and Louren Kassabra: study conception and design, data collection, writing the paper. Amer Jari and Haitham Abbassi: study concept, Critical revision of the article.

All authors reviewed the results and approved the final version of the manuscript.

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References

1. Berghella V, Baxter JK, Chauhan SP. Evidence-based surgery for cesarean delivery. American Journal of obstetrics and gynecology. 2005; 193: 607-1617.

2. Marshall NE, Fu R, Guise JM. Impact of multiple cesarean deliveries on maternal morbidity: a systematic review. American journal of obstetrics and gynecology. 2011; 205; 262-e1.

3. Rosen MG, Dickinson JC, Westhoff CL. Vaginal birth after cesarean: A meta-analysis of morbidity and mortality. Obstetrics & Gynecology. 1991; 77: 465-470.

4. Bangal VB, Giri PA, Shinde KK, Gavhane SP. Vaginal birth after cesarean section. North American journal of medical sciences. 2013; 5: 140.

5. Miller DA, Diaz FG, Paul RH. Vaginal birth after cesarean: A 10-year experience. Obstetrics & Gynecology. 1994; 84: 255-258.

6. Weinstein D, Benshushan A, Tanos V, Zilberstein R, Rojansky N, et al. Predictive score for vaginal birth after cesarean section. American journal of obstetrics and gynecology. 1996; 174: 192-198.

7. Macones GA, Cahill A, Pare E, Stamilio DM, Ratcliffe S, et al. Obstetric outcomes in women with two prior cesarean deliveries: is vaginal birth after cesarean delivery a viable option?. American journal of obstetrics and gynecology. 2005; 192: 1223-1228.

8. Chauhan SP, Martin Jr JN, Henrichs CE, Morrison JC and Magann EF, et al. Maternal and perinatal complications with uterine rupture in 142,075 patients who attempted vaginal birth after cesarean delivery: A review of the literature. American journal of obstetrics and gynecology. 2003; 189: 408-417.

9. Chen I, Opiyo N, Tavender E, Mortazhejri S, Rader T,

10. Petkovic J, Yogasingam S, Taljaard M, Agarwal S, Laopaiboon M, Wasiak J, et al. Non-clinical interventions for reducing unnecessary caesarean section. Cochrane Database of Systematic Reviews. 2018.

11. Lawson GW. Vaginal delivery after 3 previous caesarean sections. Australian and New Zealand Journal of Obstetrics and Gynaecology. 1987; 27: 115-116.

12. Rageth JC, Juzi C and Grossenbacher H. Delivery after previous cesarean: A risk evaluation. Obstetrics & Gynecology. 1999; 93: 332-337.

13. Obstetricians ACo G. ACOG practice Bulletin No. 205: Vaginal birth after cesarean delivery. Obstet Gynecol. 2019; 133: e110-127.

14. Ryan GA, Nicholson SM, Morrison JJ. Vaginal birth after caesarean section: current status and where to from here?. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2018; 224: 52-57.

15. İzbudak G, Tozkır E, Cogendez E, Uzun F, Eser SK, et al. Comparison of maternal-neonatal results of vaginal birth after cesarean and elective repeat cesarean delivery. Ginekologia Polska. 2021; 92: 306-311.

16. Tanos V, Toney ZA. Uterine scar rupture-Prediction, prevention, diagnosis, and management. Best practice & research Clinical obstetrics & gynaecology. 2019; 59: 115-131.

17. Asgarian A, Rahmati N, Nasiri F, Mohammadbeigi A. The failure rate, related factors, and neonate complications of vaginal delivery after cesarean section. Iranian journal of nursing and midwifery research. 2020; 25: 65.

18. Zhang H, Liu H, Luo S, Gu W, et al. Oxytocin use in trial of labor after cesarean and its relationship with risk of uterine rupture in women with one previous cesarean section: A meta-analysis of observational studies. BMC Pregnancy and Childbirth. 2021; 21: 1-10.

19. Hudić I, Fatušić Z, Kamerić L, Mišić M, ŠERAK I, Latifagić A, et al. Vaginal delivery after Misgav–Ladach cesarean section–Is the risk of uterine rupture acceptable?. The Journal of Maternal-Fetal & Neonatal Medicine. 2010; 23: 1156-1159.

20. Sandall J, Tribe RM, Avery L, Mola G, Visser GH, et al. Short-term and long-term effects of caesarean section on the health of women and children. The Lancet. 2018; 392: 1349-1357.

21. O'Shea TM, Klebanoff MA, Signore C. August. Delivery after previous cesarean: Long-term outcomes in the child. In Seminars in perinatology. 2010; 34: 281-292. WB Saunders.

22. Bretelle F, Cravello L, Shojai R, Roger V, D'ercole C, et al. Vaginal birth following two previous cesarean sections. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2001; 94: 23-26.

23. Sharma S, Thorpe-Beeston JG. Trial of vaginal delivery following three previous caesarean sections. BJOG: An International Journal of Obstetrics and Gynaecology. 2002; 3: 350-351.

24. Riva HL, Teich JC. Vaginal delivery after cesarean section. American Journal of Obstetrics and Gynecology. 1961; 81: 501-510.

25. Trojano G, Damiani GR, Olivieri C, Villa M, Malvasi A, et al. VBAC: Antenatal predictors of success. Acta Bio Medica: AteneiParmensis. 2019; 90: 300.

26. Balachandran L, Vaswani PR, Mogotlane R. Pregnancy outcome in women with previous one cesarean section. Journal of clinical and diagnostic research: JCDR. 2014; 8: 99.

27. Li YX, Bai Z, Long DJ, Wang HB, Wu YF, Reilly KH, et al. Predicting the success of vaginal birth after caesarean delivery: A retrospective cohort study in China. BMJ open. 2019; 9: e027807.

28. Ashwal E, Wertheimer A, Aviram A, Wiznitzer A, Yogev Y, et al. Prediction of successful trial of labor after cesarean–the benefit of prior vaginal delivery. The Journal of Maternal-Fetal & Neonatal Medicine. 2016; 29: 2665-2670.

29. Lundgren I, Begley C, Gross MM, Bondas T. 'Groping through the fog': A metasynthesis of women's experiences on VBAC (Vaginal Birth After Caesarean Section). BMC pregnancy and childbirth. 2012; 12: 1-11.

30. Vikhareva O, Nedopekina E, Kristensen K, Dahlbäck C, Pihlsgård M, et al. Strategies to increase the rate of vaginal deliveries after cesarean without negative impact on outcomes. Midwifery. 2022; 106: 103247.

31. Tahseen S, Griffiths M. Vaginal Birth After Two Caesarean Sections (VBAC-2)—a systematic review with meta-analysis of success rate and adverse outcomes of VBAC-2 versus VBAC-1 and repeat (third) caesarean sections. BJOG: An International Journal of Obstetrics & Gynaecology. 2010; 117: 5-19.