



Contents lists available at ScienceDirect

Taiwanese Journal of Obstetrics & Gynecology

journal homepage: www.tjog-online.com

Original Article

Vaginal birth after cesarean section—The world trend and local experience in Taiwan



Hsiu-Ting Tsai, Chia-Hsun Wu*

Department of Obstetrics and Gynecology, MacKay Memorial Hospital, Taipei, Taiwan

ARTICLE INFO

Article history:

Accepted 10 March 2016

Keywords:

elective repeat cesarean delivery
guidelines
Taiwan
trial of labor after cesarean
vaginal birth after cesarean section

ABSTRACT

Objective: The trend of increasing cesarean section rates had evoked worldwide attention. Many approaches were introduced to diminish cesarean section rates. Vaginal birth after cesarean section (VBAC) is a route of delivery with diverse agreements. In this study, we try to reveal the world trend in VBAC and our experience of a 10-year period in a medical center in northern Taiwan.

Materials and methods: This is a retrospective study of all women who underwent elective repeat cesarean delivery or trial of labor after cesarean (TOLAC) following primary cesarean delivery by a general obstetrician–gynecologist in the Tamshui Branch of MacKay Memorial Hospital (Taipei, Taiwan) between 2006 and 2015. We excluded cases of preterm labor, two or more cesarean deliveries, and major maternal diseases. We compared the characteristics and outcomes between these groups.

Results: We included 400 women with subsequent pregnancies who underwent elective repeat cesarean delivery or TOLAC during the study period. Among the study population, 112 women were excluded and 11 underwent repeat VBAC. A total of 204 (73.65%) cases underwent elective repeat cesarean delivery and 73 (26.35%) chose TOLAC. The rate of successful VBAC among the women who chose TOLAC was 84.93%.
Conclusion: With respect to maternal and fetal safety, and success rates and adverse effects of VBAC, the results of this study are promising and compatible with the global data. It shows that a trial of VBAC can be offered to pregnant women without contraindications with high success rates.

© 2017 Taiwan Association of Obstetrics & Gynecology. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

The trend of increasing cesarean section (CS) rates had evoked worldwide attention for both healthcare workers and general population. Many articles revealed the trend of a steady rise of CS rates globally in the past 2 decades [1,2]. According to the World Health Organization (WHO) recommendation, CSs should be performed only when medically necessary [3]. Unfortunately, this recommendation fails to reverse the increasing trend of CS rates. Among the group of cesarean deliveries, repeated CS due to prior ones account for a remarkable proportion [4]. Vaginal birth after cesarean section (VBAC) is an alternative to repeated CSs. It peaked during the mid-1990s along with a lower total CS rate. A dramatic drop of the percentage of VBAC since that point of time accompanied with a steady increase of CS rates was explored till the present time [5]. Several national medical associations have provided

practice guidelines for VBAC. However, the evidence is inconsistent and the effect on VBAC rates is unclear [6]. The rates of successful VBAC in the United States are between 38.5% and 69.8%, as revealed by a 10-year survey [7]. In this article, we review the current recommendations and guidelines for VBAC, and the result of our 10 years' experience of VBAC in a medical center of northern Taiwan.

Materials and methods

This is a retrospective study with a chart review of all women who underwent elective repeat cesarean delivery (ERCD) or trial of labor after cesarean (TOLAC) following primary cesarean delivery by a general obstetrician–gynecologist in the Tamshui Branch of MacKay Memorial Hospital (Taipei, Taiwan) between January 2006 and December 2015. During the first prenatal visit and prenatal care in the third trimester, the doctor explained the cons and pros of TOLAC to the patients and queried about their decision to proceed with TOLAC. The patients chose their delivery modes. Those patients were divided into two groups, ERCD and TOLAC. We excluded patients with preterm labor (gestational age < 37 weeks),

* Corresponding author. Department of Obstetrics and Gynecology, MacKay Memorial Hospital, 92, Section 2, Chung-Shan North Road, Taipei, Taiwan.

E-mail address: mtgwu@ms62.hinet.net (C.-H. Wu).

two or more CSs, a history of myomectomy, previous CS via classical or inverted-T methods, maternal major brain lesions, maternal major cardiac diseases, and maternal severe pelvic trauma history. The characteristics, delivery mode, and maternal and fetal outcomes were compared between the two groups. In addition, we calculated the selective rates of TOLAC and the rates of successful VBAC in those who chose TOLAC. We analyzed parameters of success and failure of TOLAC between the two groups.

We used the program of IBM SPSS Statistics version 22 for data analysis. A Student *t* test was used to compare these parameters between the groups. Significant differences are identified when *p* < 0.05.

Our study was approved by the institutional review board of MacKay Memorial Hospital and the institutional review board number was 16MMHIS036e.

Results

We collected data of 400 pregnant women who underwent ERCD or TOLAC during the study period. Among the study population, 112 women were excluded. Eleven women underwent repeat VBAC. A total of 204 cases (73.65%) underwent ERCD and 73 (26.35%) chose TOLAC. The rate of successful VBAC among the women who chose TOLAC was 84.93%. Among those with successful TOLAC, 31 women underwent vacuum-assisted vaginal deliveries and another 31 had spontaneous vaginal deliveries (Figure 1).

Table 1 presents the characteristics of subsequent pregnancy of women who underwent ERCD or chose TOLAC. Women who had a TOLAC represented a significantly higher gestational age at delivery, a longer interval from previous delivery, more multiparity, a higher number of prior vaginal deliveries, lower rates of persistent position of the fetal head, and a higher 1-minute Apgar score. Regarding the incidence of postpartum hemorrhage, birth weight over 4000 g, and neonatal intensive care unit or NBC (newborn center) admission, there were no significant differences between the ERCD and TOLAC groups. Furthermore, there were no significant differences in fetal birth weight and 1-minute Apgar scores. No uterine rupture occurred in these two groups.

Table 2 presents the characteristics of women in subsequent pregnancy with successful or failed TOLAC. Women who had a successful VBAC were characterized with lower fetal birth weight and higher 1-minute Apgar scores. The rate of spontaneous delivery

Table 1
Characteristics of women, and maternal and neonatal outcomes in subsequent pregnancy between choices of ERCD and TOLAC.

| Characteristics of women, & maternal & neonatal outcomes in subsequent pregnancy | ERCD (n = 204) | TOLAC (n = 73) | p |
|--|------------------|------------------|---------|
| Maternal age (y) | 32.65 ± 4.30 | 32.93 ± 4.64 | 0.116 |
| Maternal age >35 y (n) | 56 (27.45) | 16 (21.92) | 0.178 |
| BMI (kg/m ²) | 23.09 ± 4.57 | 22.68 ± 3.50 | 0.242 |
| Obesity, BMI >30 kg/m ² (n) | 16 (7.84) | 2 (2.74) | 0.065 |
| Gestational age at delivery (wk) | 38.16 ± 2.59 | 39.43 ± 1.31 | <0.001* |
| Time from previous delivery (y) | 3.82 ± 2.75 | 4.60 ± 3.53 | 0.027* |
| Parity (n) | 1.05 ± 0.25 | 1.21 ± 0.45 | <0.001* |
| History of vaginal delivery (n) | 10 (4.90) | 12 (16.44) | <0.001* |
| Pregestational diabetes (n) | 2 (0.98) | 1 (1.37) | 0.392 |
| Chronic hypertension (n) | 5 (2.45) | 3 (4.11) | 0.447 |
| GDM (n) | 3 (1.47) | 1 (1.37) | 0.475 |
| Preeclampsia (n) | 4 (1.96) | 1 (1.37) | 0.373 |
| Postpartum hemorrhage (n) | 5 (2.45) | 2 (2.74) | 0.447 |
| Dehiscence or rupture of uterine scar (n) | 0 (0.00) | 0 (0.00) | |
| Persistent occiput-posterior position (n) | 19 (93.14) | 2 (2.74) | 0.034* |
| Neonatal outcome | | | |
| Birth weight (g) | 3159.62 ± 418.15 | 3241.26 ± 404.13 | 0.075 |
| >4000 g (n) | 7 (3.43) | 1 (1.37) | 0.184 |
| 1-min Apgar score ≤6 (n) | 0 (0) | 1 (1.37) | 0.047* |
| NBC or NICU admission (n) | 4 (1.96) | 2 (2.74) | 0.348 |

Data are presented as mean ± SD or *n* (%). BMI = body mass index; ERCD = elective repeat cesarean delivery; GDM = gestational diabetes mellitus; NBC = newborn center; NICU = neonatal intensive care unit; SD = standard deviation; TOLAC = trial of labor after cesarean. **p*-value < 0.05, statistical significance.

during successful TOLAC was 50.00%. The rate of operative vaginal delivery using the vacuum-assisted method among those undergoing VBAC was 50.00%. The major causes of operative vaginal delivery were poor maternal expulsive force, fetal distress (3 cases; 9.68%), and prolonged second stage (1 case; 3.23%). Eleven women (15.07%) had failed TOLAC and underwent repeat cesarean deliveries. The causes of failed TOLAC were as follows: intolerable labor pain in three cases, fetal distress in two cases, prolonged labor (latent phase) in two cases, and prolonged labor (active phase) in four cases. There was no significant difference in the rates of postpartum hemorrhage and neonatal intensive care unit or NBC admission of the newborn. In addition, there was no case of uterine rupture during TOLAC.

Discussion

According to the WHO statement, the international healthcare community has considered the ideal rate for CSs to be between 10% and 15% [3]. CS rates vary tremendously in different countries and regions. China and Mexico have the highest CS rates, with nearly half of all pregnancies ending up with cesarean deliveries [2,8–11]. By contrast, the Netherlands, Finland, Iceland, and Norway have low and stable CS rates. According to categorized grouping data of the United Nations in 2014, CS rates were 7.3% in Africa, 19.2% in Asia, 25.0% in Europe, 40.5% in Latin America and the Caribbean, 32.3% in Northern America, and 31.1% in Oceania, and 18.6% was global average rate. It also showed that there is a trend of rising CS rates all over the world with a few exceptions [1]. The data in Taiwan, provided by the Health Promotion Administration, Ministry of Health and Welfare, also demonstrate a similar trend (Figure 2).

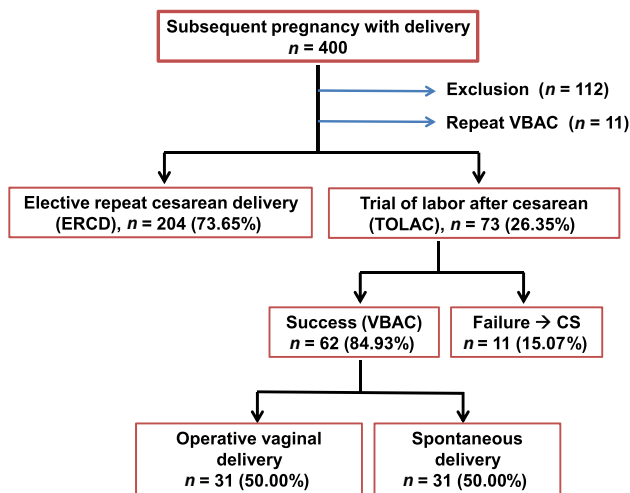


Figure 1. Selection of the study group. CS = cesarean section; ERCD = elective repeat cesarean delivery; TOLAC = trial of labor after cesarean; VBAC = vaginal birth after cesarean.

Download English Version:

<https://daneshyari.com/en/article/8784651>

Download Persian Version:

<https://daneshyari.com/article/8784651>

[Daneshyari.com](https://daneshyari.com)