

Trial of Labor Versus Repeat Cesarean: Are Patients Making an Informed Decision?

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Disclosure: None of the authors have conflict of interest

Financial Support: none

Presented at Oral Concurrent Session 3 at the 32nd Annual SMFM Meeting in Dallas, Texas February 9th, 2012

Received Award for “Best Paper in Session 3”

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Condensation of the Paper:

Women with a prior cesarean delivery presenting for trial of labor or elective repeat cesarean section lack knowledge of the risks and benefits of either.

Short Title: TOLAC vs. RCS: Are Patients Making and Informed Decision?

Word Count:

Abstract= 150

Manuscript= 1995

Abstract

Objective: Most women eligible for trial of labor after a cesarean (TOLAC) undergo an elective repeat c-section (ERCS). We hypothesized that this is largely due to poor patient education.

Study design: Prospective, study of women who presented to our hospital from 11/2010-07/2011 that were candidates for TOLAC. Women filled out a questionnaire prior to their scheduled ERCS or upon admission for TOLAC. Chi-Square and t-test were used, as appropriate.

Results: The study included 155 women, 87 for TOLAC and 68 for ERCS. Women in both groups demonstrated lack of knowledge on the risks and benefits of TOLAC and ERCS. When patients perceived their providers as having a preference for ERCS, very few chose TOLAC whereas the majority chose TOLAC if this was their provider's preference.

Conclusion: Candidates for TOLAC appear to know little about the risks and benefits associated with their mode of delivery and provider preference affects this choice.

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Key Words:

- 1) Informed Consent
- 2) Repeat Cesarean Section
- 3) Trial of Labor

Introduction

In 1916, Dr. Edwin Cragin, coined the phrase “Once a cesarean, always a cesarean”.ⁱ His words were intended to warn surgeons to avoid this “radical obstetric surgery”, unless entirely necessary in order to avoid dangers of repeat surgeries.ⁱ However, over the last 100 years, as cesarean section became a relatively safe option the context of his words was lost. If a woman had a prior cesarean delivery, another cesarean delivery was recommended. This all or nothing approach, was first questioned in the 1950s with the publication of a review from M. Hague Maternity Hospital in New Jersey. The author presented the nearly 100 cases of successful vaginal birth following cesarean to the American Medical Association sparking much debate.ⁱⁱ The rate of vaginal birth after cesarean (VBAC) continued to fluctuate over the years as physicians were guided by changes in the official recommendations of various organizations and the medical-legal environment.

In the early 1980s, VBAC rates were lingering at less than 5% across the country inspiring the first NIH Consensus Development Conference. At this meeting, the necessity of repeat cesarean was questioned and guidelines were set for situations in which VBAC could be offered.ⁱⁱⁱ As a result, the VBAC rate began to climb steadily and peaked in 1996, at approximately 28.3% after the publication of the ACOG guideline stating “In the absence of contraindications, a woman with one previous delivery with a lower transverse uterine incision is a

candidate for VBAC and should be counseled and encouraged to undergo a trial of labor”.^{iv v} However, this peak was short lived and began to fall soon after the publication of a landmark paper that same year pointing to the increased rate of complications after failed trial of labor.^{vi iv} This downward trend continued with publication of the new ACOG guidelines in 1999 stating: “VBAC should be attempted in institutions equipped to respond to emergencies with physicians immediately available to provide emergency care.”^{vii} Even further decline was seen after the publication of an article in 2001 which examined the risk of uterine rupture and postpartum complications with respect to induction of labor.^{viii iv} As of 2006, the rate had reached a nadir of 8.7% and as the rate of VBAC has fallen, the cesarean section rate has been on the rise across the country reaching almost 33% in 2007.^{ix}

One of the main objectives of the most recent NIH Consensus Conference in 2010 was to explore the influence of nonmedical factors on utilization patterns of TOLAC (trial of labor after cesarean). The nature and extent of informed decision making and the influence of the care provider were both explored^x. The 1999 ACOG guideline stated that “after thorough counseling that weighs the individual risks and benefits of VBAC, the ultimate decision to attempt this procedure or undergo a repeat cesarean delivery should be made by the woman and her physician.”^{vii} Contrary to this guideline, the literature suggests that that patient education is lacking and that this lack of discussion with the clinician is often associated with choosing cesarean delivery,^{xi xii} Recent studies also suggest

that patients highly value the opinion of their provider.^{xiii xi xii} Importantly, though these concepts are suggested in prior studies, the NIH Consensus found a paucity of data documenting the extent of these shortcomings.^x Our study sought to fill this critical gap and explore the hypothesis that the national low rate of VBAC is due, in part to insufficient informed consent about the risks and benefits of trial of labor.

Materials and Methods

Our study was an IRB approved, prospective observational study of women admitted to Roosevelt Hospital for delivery between November 2010 and July 2011 eligible for TOLAC. Women were excluded if they had more than one prior cesarean, a prior classical uterine scar, a prior myomectomy, multiple gestation or any other medical or obstetric complication that precluded a trial of labor. They received prenatal care and counseling in either a private physician's office or in our hospital-based clinic. A questionnaire was administered to women after admission to the obstetric unit either just prior to their scheduled repeat elective cesarean or after admission for trial of labor. Most of the TOLAC patients completed the questionnaire after receiving epidural analgesia. The questionnaire was not administered to women who had received narcotic medications. Figure 1 shows a sample of relevant questions included in the questionnaire. The full questionnaire can be viewed online (Appendix A). Specific points of inquiry included: Demographics, the prior cesarean experience, family

planning goals, perceived provider preference, factors affecting patient's choice, risks and benefits of ERCS and TOLAC. Patient knowledge of the risks and benefits were assessed with respect to key points covered in the ACOG Practice Bulletin Number 115 published in August 2010, "Vaginal Birth After Cesarean Delivery".^{xiv} The data were analyzed using Chi-Square and Fischer's Exact test.

Figure 1

*Please answer these questions based on the counseling you received
in this pregnancy from medical professionals and your own general knowledge:*

1. Do you feel your doctor/midwife preferred one method of delivery over another?
 - My doctor/midwife did not have a preference
 - My doctor/midwife preferred that I have a repeat cesarean section
 - My doctor/midwife preferred that I try for a vaginal delivery
 - My doctor/midwife did not express an opinion one way or another
2. If I were to try for a trial of vaginal labor, my overall chances of success are:
 - 1-5%
 - 20-40%
 - 40-60%
 - 60-80%
 - 90%
 - Don't know
3. If I try for a vaginal delivery (VBAC), the risk that my uterus will rupture (opening of the uterine scar) is:
 - 0.5-1%
 - 5-10%
 - 10-20%
 - 50%
 - Don't know
4. My recovery from a successful vaginal delivery versus a repeat cesarean section is:
 - The same
 - Longer for a repeat cesarean section
 - Longer for a vaginal delivery
 - I do not know
5. The risk that I have a complication increases each time I have another cesarean section:
 - Yes
 - No
 - I do not know
6. The reason for my previous cesarean section is an important factor in determining my chances of a successful vaginal delivery:
 - Yes
 - No
 - I do not know
7. Which of the following risks are **greater for a woman having a repeat cesarean section** compared to a VBAC (vaginal delivery after a cesarean section)?
Check all that apply
 - Death of the mother
 - Death of the baby
 - Injury to organs (in the mother)
 - Excessive bleeding (in the mother)
 - Infection (in the mother)
 - Difficulty breathing (in the baby)
 - Admission of baby to the NICU (intensive care nursery)

Results

The study included a total of 155 women, 87 that presented for TOLAC and 68 that presented for ERCS. There were no statistical differences with respect to age, level of education, ethnicity and provider type between the groups. As seen in Table 1, greater than 75% of women were over age 30 in both groups and at least 75% of subjects had an Associates or higher degree. 40% of patients in both groups received their prenatal care in our hospital based clinic and approximately 60% of patients were cared for by a private physician. Approximately 46% of patients in both groups classified themselves as Caucasian and 20-30% as Hispanic.

Patients demonstrated an overall lack of knowledge about the risks and benefits of TOLAC and ERCS. Only 13% of TOLAC patients and 4% of ERCS patients knew that the chances for a successful TOLAC are 60-80%, while the majority in both groups (54% in the TOLAC group versus 73% in the ERCS group) stated that they "did not know" (Table 2). Forty nine percent of TOLAC patients and 26% of ERCS patients knew that the risk of uterine rupture is 0.5-1%, while the majority (64%) of ERCS patients stated that they did not know what the risk of uterine rupture is during TOLAC (Table 3). In addition, 52% of patients undergoing ERCS did not know that the recovery from a cesarean is longer than after a vaginal delivery (Table 4) and 46% did not know that the complication rates increase with each successive cesarean. (Table 5). Twenty percent of ERCS

patients believed that the indication for the previous cesarean played no role in their chances of a subsequent successful vaginal delivery while an additional 32% “did not know” if indication had any effect (Table 6). When questioned about the risks associated with ERCS versus TOLAC, at least 50% of women in both groups were aware that there is a greater risk of damage to organs, excessive bleeding and infection. However, only 30% or less knew that an ERCS is associated with an increased risk of maternal death, neonatal respiratory compromise and admission to the neonatal intensive care unit (Table 7). When patients perceived their providers as having a preference for ERCS, 19/22 (86%) chose ERCS, while when patients felt their doctor preferred a TOLAC, 36/46 (78%) chose TOLAC (Table 8). Of the patients that stated their doctor had no preference or did not know their doctor’s preference, 50% chose TOLAC and 50% chose ERCS (Table 8).

Table 1: Demographic Data

Age	TOLAC n=87	ERCS n=68	P value*
18-25	5 (6%)	4 (6%)	0.5
26-29	12 (14%)	5 (7%)	0.2
30-34	33 (38%)	24 (35%)	0.4
35-40	31 (36%)	28 (41%)	0.3
40+	6 (7%)	7 (10%)	0.3
Education	TOLAC n=87	ERCS n=68	
<12 yrs	6 (7%)	2 (3%)	0.2
High School Only	11 (16%)	6 (9%)	0.3
Assoc Degree	7 (8%)	10 (15%)	0.1
Bachelor Degree	30 (34%)	24 (35%)	0.5
Grad Degree	25 (29%)	17 (25%)	0.3
High Level Degree	8 (9%)	9 (13%)	0.3
Provider Type	TOLAC n=80	ERCS n=68	
Hospital Clinic	31 (39%)	27 (40%)	0.5
Private Physician	46 (58%)	41 (63%)	0.4

Private Midwife	3 (4%)	0 (0%)	--
Ethnicity	TOLAC n=87	ERCS n=68	
Caucasian	40 (46%)	32 (47%)	0.5
Black	7 (8%)	10 (15%)	0.1
Asian	7 (8%)	6 (9%)	0.5
Hispanic	26 (30%)	15 (22%)	0.2
Other	7 (8%)	5 (7%)	0.6

* All p values >.05

Table 2:

“If I were to try for a trial of vaginal labor my overall chances of success are:”

Options	TOLAC n=85	ERCS n=67
1-5%	0	6 (9%)
20-40%	0	4 (6%)
40-60%	14 (16%)	5 (7%)
60-80%	11 (13%)	3 (4%)
90%	14 (16%)	0
Don't Know	46 (54%)	49 (73%)

Table 3: “If I try for a vaginal delivery (VBAC) the chance my uterus will rupture (opening of the uterine scar) is:”

Options	TOLAC n=83	ERCS n=66
0.5-1%	40 (49%)	17 (26%)
5-10%	5 (6%)	2 (3%)

10-20%	0	1 (2%)
50%	1 (1%)	4 (6%)
Don't Know	37 (45%)	42 (64%)

Table 4:

“My recovery from a successful vaginal delivery versus a repeat cesarean is:”

Options	TOLAC n=84	ERCS n=65
The same	3 (4%)	5 (8%)
Longer for a repeat cesarean	59 (70%)	26 (40%)
Longer for a vaginal delivery	4 (5%)	0
I do not know	18 (21%)	34 (52%)

Table 5:

“The risk of complications increases each time I have a cesarean”

Options	TOLAC n=85	ERCS n=68
Yes	54 (66%)	31 (46%)
No	4 (5%)	4 (6%)
Don't Know	27 (32%)	31 (46%)

Table 6:

“The reason for my previous cesarean is important in determining my chances of a successful vaginal delivery (VBAC):”

Options	TOLAC n=84	ERCS n=66
Yes	56 (67%)	32 (48%)
No	11 (13%)	13 (20%)
Don't Know	17 (20%)	21 (32%)

Table 7:

“Which of the following risks is greater for a repeat cesarean compared to a VBAC. Please check all that apply:”

Options	TOLAC n=80	ERCS n=60
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Injury to Organs	50%	62%
Maternal Infection	59%	54%
Hemorrhage	50%	57%
Risk of Hysterectomy	29%	50%
Maternal Death	29%	23%
Admission to the NICU	23%	17%
Neonatal Respiratory Compromise	30%	19%

Table 8:

“Do you think your doctor/midwife preferred one method of delivery over another?”

Options	TOLAC n=84	ERCS n=65
Preferred TOLAC	36 (43%)	10 (15%)
Preferred ERCS	3 (4%)	19 (29%)
No preference	24 (29%)	24 (37%)
Unaware of Doctor’s preference	21 (25%)	12 (19%)

Comments

Women in both groups were insufficiently informed about the risks and benefits of TOLAC and ERCS, particularly women in the ERCS group. Specifically, our patients were not familiar with the chances of a successful TOLAC, the effect of indication for previous CS on success, the risk of uterine rupture, the increased length of recovery with ERCS versus TOLAC and the increased risk of maternal death, neonatal respiratory compromise and NICU admission with ERCS. In addition, if a our patient felt her provider had a preference, she was more likely to choose that mode of delivery. Whereas, when

patients felt their providers were indifferent or if they were unaware of their providers' preferences, 50% chose one mode and 50% chose the other.

Our questionnaire was related to information from the American Congress of Obstetricians and Gynecologists Bulletin revised in August 2010.^{xiv} This resource is widely available to all Obstetricians and Gynecologists in the United States. According to the "Guidelines for Perinatal Care" published by the same organization, patients with uncomplicated pregnancies should see their doctors every 4 weeks when they are less than 28 weeks, every 2 weeks when they are 28-36 weeks and every week when they are 36 weeks or beyond.^{xv} This leaves ample opportunity for counseling, especially at the end of the pregnancy.

Informed consent, is defined as a process of communication whereby a patient is enabled to make an informed and voluntary decision about accepting or declining medical care and has become a mainstay of contemporary medical practice. It is viewed by many as a collaborative process between physician and patient intended to facilitate the patient's autonomy in the process of ongoing choices. Our respondents showed insufficiencies in the area of comprehension, a major tenet of informed consent. They lacked awareness and understanding of their situation and possibilities. From our data, it appears that provider bias may affect the opinion of some patients, with undue influence on patient's voluntary decision making.^{xvi}

Our data was obtained from an institution with a high VBAC rate of 33%^{xvii} and an older and more highly educated population than the average across the

United States. Our results may therefore represent a better informed population suggesting wider knowledge gaps throughout the country. We acknowledge a relatively small sample size and a lack of standardization in both patient counseling and the questionnaire itself. Our study should best be regarded as a preliminary investigation of current practice patterns intended to provoke further interest in the subject of informed consent in patients that are eligible for TOLAC. Future studies might evaluate counseling styles and decision aids and their influence on delivery preference and the patient knowledge base.

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