

TOLAC COUNSELING

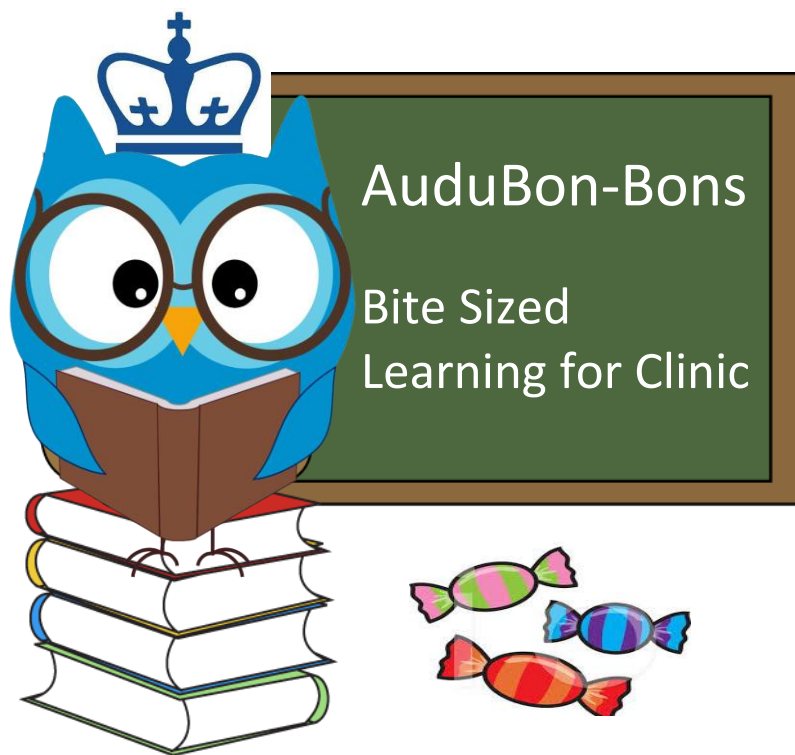
Week 23

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Reading Assignment:

ACOG Practice Bulletin #205

Vaginal Birth after Cesarean Delivery



LEARNING OBJECTIVES



- To understand relevant factors in determining appropriate candidates for trial of labor after previous cesarean delivery
- To recognize contraindications to trial of labor after previous cesarean delivery
- To counsel on the risks and benefits of trial of labor after previous cesarean delivery



CASE VIGNETTE

- Ms. Nomas Cirugia, a 32 yo G2 P1001 at 20wga, presents to clinic for antepartum visit requesting counseling regarding trial of labor after previous cesarean delivery. She has had an uncomplicated pregnancy without contraindication to vaginal delivery.



FOCUSED HISTORY

- What elements of the patient's history are most relevant?
 - PMH: Obesity with BMI 31
 - PSH: LTCD x1
 - POBH: LTCD 3 years ago for breech malpresentation
 - PGYNH: Regular menses prior to pregnancy. Denies history of STIs or abnormal paps. Denies history of fibroids or cysts.
 - MEDS: None
 - All: NKDA
 - FH: Denies
 - SH: Denies tob, drug, etoh use. Denies IPV. Accepts blood products.



PERTINENT PHYSICAL EXAM FINDINGS

- What elements of the patient's physical exam are most relevant?
 - General: Well appearing woman, **obese**, VSS
 - CV: RRR
 - Resp: CTAB
 - Abd: Soft, ND, NT, appropriately gravid, **pfannenstiel incision well healed**
 - Ultrasound: Singleton IUP, FHR 150s bpm, **normal placentation**



CONTRAINDICATIONS TO TOLAC

- Contraindication to vaginal delivery
- Previous uterine rupture
- Previous classical, J-incision, or T-incision
 - Risk of uterine rupture
 - 4-9%
- Extensive transfundal surgery
- Hospital that cannot perform emergency CD
- Are there any exceptions to these contraindications?
 - Per ACOG, individual circumstances should be considered in all cases.
 - “If a patient who may otherwise not be a candidate for TOLAC, presents in advanced labor, the patient and her obstetrician...may judge it best to proceed with TOLAC.”



CANDIDATES FOR TOLAC

- Women with 1 previous LTCD should be counseled about and offered TOLAC if no contraindications
- Is history of 2 previous LTCD a contraindication for TOLAC?
 - No
- Is history of previous low vertical CD a contraindication for TOLAC?
 - No
- Is history of previous CD with unknown scar contraindication for TOLAC?
 - Only if there is strong suspicion of classical CD (if CD was performed at extreme prematurity)
- Is twin gestation a contraindication for TOLAC?
 - No
- Is suspected macrosomia a contraindication for TOLAC?
 - No
 - Likelihood of success may be lower
- Is gestation beyond 40 weeks a contraindication for TOLAC?
 - No
 - Likelihood of success may be lower



BENEFITS OF VBAC

- Benefits of VBAC
 - Option for those who want to experience vaginal birth
 - Health advantages:
 - Lower rates of hemorrhage, thromboembolism, and infection
 - Shorter recovery period than women who have RCD
 - For those considering future pregnancies, may decrease risk of maternal consequences related to multiple CD
 - Hysterectomy, bowel or bladder injury, transfusion, infection, abnormal placentation



RISKS OF TOLAC

- Risks of both RCD and TOLAC
 - Maternal hemorrhage, infection, operative injury, thromboembolism, hysterectomy, and death
 - Most maternal morbidity related to TOLAC occurs when RCD is necessary
- Risks of TOLAC alone
 - Uterine rupture
 - Hysterectomy (14-33%), neonatal neurology morbidity and neonatal death (3-6%)
 - Risk of uterine rupture with 1 previous LTCS
 - 0.5-0.9%
 - Risk of uterine rupture with more than 1 previous LTCS
 - 0.9-3.7%



RISKS OF TOLAC

Table 1. Composite Maternal Risks From Elective Repeat Cesarean Delivery and Trial of Labor After Previous Cesarean Delivery in Term Patients

Maternal Risks	ERCD (%) [One CD]	TOLAC (%)
Infectious morbidity	3.2	4.6
Surgical injury	0.30–0.60	0.37–1.3
Blood transfusion	0.46	0.66
Hysterectomy	0.16	0.14
Uterine rupture	0.02	0.71
Maternal death	0.0096	0.0019

Abbreviations: CD, cesarean delivery; ERCD, elective repeat cesarean delivery; TOLAC, trial of labor after cesarean delivery.

Surgical Injury: Defined differently and variably reported on in trials. Rate of surgical injury may be increased with TOLAC but definitive studies are lacking.

Infectious Morbidity: Defined as fever, infection, endometritis, and chorioamnionitis

Data from Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu R, et al. Vaginal birth after cesarean: new insights. (Archived) Evidence Report/Technology Assessment No.191. AHRQ Publication No. 10-E003. Rockville (MD): Agency for Healthcare Research and Quality; 2010.

Table 2. Composite Neonatal Morbidity From Elective Repeat Cesarean Delivery and Trial of Labor After Previous Cesarean Delivery in Term Infants

Neonatal Risks	ERCD (%)	TOLAC (%)
Antepartum stillbirth	0.21	0.10
Intrapartum stillbirth	0–0.004	0.01–0.04
HIE	0–0.32	0–0.89
Perinatal mortality	0.05	0.13
Neonatal mortality	0.06	0.11
NICU admission	1.5–17.6	0.8–26.2
Respiratory morbidity	2.5	5.4
Transient tachypnea	4.2	3.6

Abbreviations: ERCD, elective repeat cesarean delivery; HIE, hypoxic ischemic encephalopathy; NICU, neonatal intensive care unit; TOLAC, trial of labor after cesarean delivery.

Hypoxic Ischemic Encephalopathy: The strength of evidence on the HIE of the infant for ERCD versus TOLAC is low because of the lack of consistency in measurement and few studies. It is not possible to know the true relationship because of the low strength of overall evidence.

Perinatal Mortality: Includes infants less than 28 days of age and fetal deaths of 20 weeks or more of gestation.

Neonatal Mortality: Death in the first 28 days of life.

Neonatal Intensive Care Unit Admission: The overall strength of evidence on the effect of route of delivery on NICU admission is low because of the inconsistent measures and lack of defined criteria for admission.

Respiratory Morbidity: Defined as the rate of bag-and-mask ventilation.

Data from Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu R, et al. Vaginal birth after cesarean: new insights. (Archived) Evidence Report/Technology Assessment No.191. AHRQ Publication No. 10-E003. Rockville (MD): Agency for Healthcare Research and Quality; 2010.



THE ROLE OF VBAC PREDICTION MODELS

- When counseling patients with previous CD x1, what is the order of outcome in terms of increasing risk of complications?
 - VBAC? elective RCD? Failed TOLAC
 - Risk of maternal morbidity related to probability of achieving VBAC
- What are the variables used in the VBAC prediction model?
 - Maternal age, BMI, prior vaginal delivery, history of VBAC, CHTN, indication for prior cesarean delivery
 - Success rates increases:
 - Prior VD
 - Success rates decreases:
 - Recurrent indication for CD, increased age, obesity, non-Caucasian ethnicity
- How do you interpret the results?
 - No universally agreed upon discrimination point
 - Evidence suggest if pt has at least 60-70% likelihood of VBAC will have same or less maternal morbidity as elective RCD
- Does use of the prediction model result in improved patient outcomes?
 - No
 - ACOG recommends use to aid in shared decision making



VBAC PREDICTION MODELS

Maternal age (range 15-50 years):
31

Height Unit:
 inches
 centimeters

Height (range 46-75 in):
64

Weight Unit:
 pounds
 kilograms

Pre-pregnancy weight (range 74-454 lbs):
180

Body mass index: 31 kg/m²

Obstetric History:

No previous vaginal history

Arrest disorder indication for prior cesarean?

No

Treated chronic hypertension?

No

Predicted chance of vaginal birth after cesarean: 62.0%

95% confidence interval: 59.7%, 64.2%



INDUCTION AND AUGMENTATION OF LABOR

- Is induction or augmentation a contraindication for women who desire TOLAC?
 - No
- Does the probability of VBAC change with IOL?
 - Decreases
- What is the risk of uterine rupture for women attempting TOLAC when labor is induced with and without prostaglandins?
 - 0.77-1.5% for labor induced without prostaglandins
 - 1.4-2.24% for prostaglandin-induced labor
 - Prostaglandins are contraindicated in women with previous CD



DIAGNOSIS OF UTERINE RUPTURE

- What are acute signs/symptoms of uterine rupture?
 - Fetal bradycardia, increased uterine contractions, vaginal bleeding, loss of fetal station, or new onset of intense uterine pain
- What is the most common sign of uterine rupture?
 - Fetal heart rate abnormality
 - Associated with up to 70% of uterine ruptures



SOCIAL DETERMINANTS OF HEALTH

Table 1. Association between Actual Success and Predicted VBAC Success Calculated with and without Race and Ethnicity

	Actual Success	OR (95% CI)	Adjusted OR* (95% CI)	VBAC score ≥ 60% with Race	OR (95% CI)	Adjusted OR* (95% CI)	VBAC score ≥ 60% without Race	OR (95% CI)	Adjusted OR* (95% CI)
Non-Hispanic White (n=29)	21 (72.41%)	ref	ref	21 (72.41%)	ref	ref	21 (72.41%)	ref	ref
Non-Hispanic Black (n=123)	66 (53.66%)	0.44 (0.18, 1.07)	0.5 (0.2, 1.28)	57 (46.34%)	0.33 (0.14, 0.8)	0.26 (0.1, 0.66)	96 (78.05%)	1.35 (0.54, 3.4)	1.29 (0.49, 3.44)
Hispanic (n=111)	74 (66.67%)	0.76 (0.31, 1.88)	0.9 (0.34, 2.41)	51 (45.95%)	0.32 (0.13, 0.79)	0.24 (0.09, 0.64)	91 (81.98%)	1.73 (0.67, 4.47)	1.71 (0.6, 4.92)
Other (n=39)	29 (74.36%)	1.11 (0.37, 3.27)	1.28 (0.4, 4.09)	37 (94.87%)	7.05 (1.37, 36.31)	7.49 (1.35, 41.7)	37 (94.87%)	7.05 (1.37, 36.31)	7.49 (1.35, 41.7)

Abbreviation: OR: Odds Ratios. 95% CI: 95% Confidence Interval. *Adjusted for Marital Status, Education, and Prenatal Provider.

The inclusion of race and ethnicity on the VBAC calculator underestimates the success rates of patients of color, and evidence supports removing race from medical decision making.



Faulkner et al. The effects of removing race from the VBAC calculator: implications for counseling. American Journal of Obstetrics and Gynecology. Supplement to Feb 2021. S467.

EPIC .PHRASE

.BBTOLACCOUNSEL

Description: TOLAC Counseling Discussion

Patient has a history of *** cesarean deliveries and *** vaginal deliveries. They have no contraindication to TOLAC. We reviewed the risks and benefits of TOLAC versus cesarean delivery in this pregnancy and their questions were answered to their satisfaction. Using the VBAC calculator, their predicted chance of VBAC was ***. We reviewed the implications of this information and using shared decision making, the patient would like to proceed with *** for mode of delivery.



CODING AND BILLING

- TOLAC Counseling

- CPT Codes

- 99214

- Office or other outpatient visit for the evaluation and management of an established patient, which requires at least two of these three key components:

- A detailed history; a detailed examination; medical decision making of moderate complexity.

- Counseling and/or coordination of care with other physicians, other qualified health care professionals, or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs.

- Usually, the presenting problem(s) are of moderate to high severity.

- Typically, 25 minutes are spent face-to-face with the patient and/or family.

- 034.219

- Maternal care for unspecified type scar from previous cesarean delivery



EVIDENCE

- Faulkner et al. The effects of removing race from the VBAC calculator: implications for counseling. American Journal of Obstetrics and Gynecology. Supplement to Feb 2021. S467
- MFMU (MFMU Network) Maternal-Fetal Medicine Units Network – Eunice Kennedy Shriver, mfmunetwork.bsc.gwu.edu/PublicBSC/MFMU/VGBirthCalc/vagbirth.html. (Accessed May 2019)
- Vaginal birth after cesarean delivery. ACOG Practice Bulletin No. 205. Obstet Gynecol 2019; 133:e110-27.
- Wells, and Dallas Integrated Creative Communications Agency. “Trial of Labor after Cesarean (TOLAC).” The Foundation for Excellence in Women's Health, www.excellence.org/pearls-of-excellence/list-of-pearls/trial-of-labor-after-cesarean-tolac/?categoryName=&searchTerms=TOLAC&featured=False&bookmarked=False&sortBy=Column=date&sortDirection=Descending. (Accessed May 2019)

