Vaginal Birth After Cesarean Section In A Community Hospital: A Family Practice Residency Experience

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Abstract: Several tertiary care, multicenter studies have shown vaginal birth after Cesarean section (VBAC) to be a viable alternative in a select patient population. The premise of our study was that VBAC is a safe option in a community hospital setting. Any patient meeting the criteria of the American College of Obstetricians and Gynecologists (ACOG) was eligible for a trial of labor, and ACOG guidelines regarding mandatory facilities and personnel were followed. One hundred six women with a history of previous Cesarean section were delivered of infants during the study period. Of these, 16 attempted a trial of labor, and 13 (81.3 percent) had vaginal births with minimum morbidity. There were no instances of scar disruption. Thirty-nine percent of the patients who were successful with VBAC had had a previous vaginal birth. By offering VBAC, the participating physicians were able to reduce their repeat Cesarean section rate by 12 percent. (J Am Bd Fam Pract 1989; 2:169-71.)

The popularity of vaginal birth after Cesarean section (VBAC) has been increasing in the United States. VBAC appears to be a safe, effective alternative to repeat Cesarean section in a select patient population.[1-7] Several large studies in the tertiary care centers have shown VBAC to have low morbidity and success rates between 70 and 80 percent.[1-6,8,9]

It was previously believed that uterine rupture would occur if women were allowed to deliver vaginally after Cesarean section. Dr. Edwin Cragin[10] first stated in 1916 the often quoted dictum that, "Once a Cesarean, always a Cesarean," but several studies have shown that uterine rupture after VBAC occurs in only 0 to 0.8 percent in patients who had low transverse incisions previously.[1-6,11] There were no cases of maternal death, and fetal mortality was roughly equal to the rate among repeat Cesarean section patients. The majority of fetal deaths antedated the use of fetal monitoring.

In 1984, repeat Cesarean sections accounted for 36 percent of 813,000 operative deliveries performed annually in this country.[12] Offering a trial of labor as an alternative has the potential for decreasing the national Cesarean section rate. Shiono found that the percentage of women who were offered a trial of labor after a previous Cesarean section increased from 2.1 percent in 1979 to 8.0 percent in 1984.[12] This occurred primarily in larger hospitals with more than 5000 deliveries a year, where more than 25 percent of patients with a prior Cesarean section were offered a trial of labor.[13]

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Methods

Our study was conducted between July 1, 1985, and August 31, 1987, in a community hospital setting. The participants were the patients of 15 family practice residents, 7 family practice faculty, and 2 obstetric/gynecology faculty. This population included all patients with a history of previous Cesarean section who delivered during the study period. Any patient meeting the criteria of the American College of Obstetricians and Gynecologists (ACOG) (Table 1) was eligible for a trial of labor. The patients came primarily from a low socioeconomic group. A trial of labor was offered if their doctor believed that they would be good candidates (based on high motivation and good compliance).

Patients were entered into the study when they began active labor or at the time of operative delivery. Several patients wavered between VBAC and operative delivery prior to onset of labor and

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Table 1. *Criteria for Patient Selection for Vaginal Birth after Cesarean Section (American College of Obstetricians and Gynecologists).*

No history of absolute cephalopelvic disproportion
Estimated fetal weight less than or equal to 4000 g
Vertex presentation required
Contraindications
A previous classical uterine incision
Multiple previous Cesarean sections
Multiple gestation

therefore had repeat Cesarean sections. All patients were required to have continuous fetal monitoring and intravenous access. Our obstetrics/gynecology department also requires an obstetrician to oversee management of the case; to be in-house, throughout labor; and to evaluate the uterus for disruption of the scar after delivery. The ACOG guidelines regarding mandatory facilities and personnel were also followed (Table 2). The delivery room log book and all charts were individually reviewed.

Results

One hundred six patients with a history of previous Cesarean section were delivered of infants during the study period. Of the 16 patients who attempted a trial of labor, 13 (81.3 percent) had vaginal births with minimal morbidity (Tables 3,4). There were no instances of scar disruption. Thirty-nine percent of the patients who delivered vaginally had a previous vaginal birth. Seven percent of the patients who chose operative delivery had a previous vaginal birth. All of the women with a previous vaginal birth who attempted VBAC were successful. Twenty-four percent of the patients who chose Cesarean section also chose postpartum tubal ligation. By offering VBAC, the participating physicians achieved an 12 percent decrease in their repeat Cesarean section rate.

Table 2. *Recommendations for Hospital Facility (American College of Obstetricians and Gynecologists).*

Continuous fetal monitoring must be available
The patient should have blood type and antibody screen on admission, and 24-hour blood banking should be available.
The facility should be able to provide emergency Cesarean section within 30 minutes; i.e., anesthesia, surgical personnel.
The physician should be qualified to evaluate labor and perform emergency Cesarean section and be immediately available.

Table 3. *Vaginal Birth after Cesarean Section.*

	Successful VBAC n = 13	Failed VBAC n = 3	Repeat Cesarean Section n = 90
	(Mean)	(Mean)	(Mean)
Age (years)	25.23	26.00	24.63
Gravidity	2.85	3.00	2.89
Parity	1.46	1.00	1.50
Abortions	0.38	1.00	0.40
Birthweight	3441 g	3665 g	3379 g
5-minute Apgar	9.00	9.33	8.85
	(Percent)	(Percent)	(Percent)
Previous vaginal birth	39	0	7
Postpartum tubal ligation	0	0	27

Discussion

Although the number of patients in our study is smaller than the multicenter studies cited, our data, obtained in a community hospital, confirm their findings. By encouraging VBAC in the community hospital setting (which is currently in-

Table 4. *Complications.*

	Number
Repeat Cesarean section (19%) n = 17/90	
Urinary tract infection	5
Spinal headache	4
Hemorrhage requiring transfusion	2
Wound infection	1
Allergic drug reaction	1
Pneumonia	1
Wound dehiscense	1
Ileus	1
Wound hematoma	1
Successful VBAC (8%) n = 1/13	
Periurethral laceration	1
Failed VBAC (33%) n = 1/3	
Spinal headache	1

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Table 5. *Reasons for Previous Cesarean Section in 106 Patients.*

	Number
Successful VBAC n = 13	
Breech	5
Fetal distress	5
Failure to progress	1
Abruptio placentae	1
Labor after 28 weeks	1
Failed VBAC n = 3	
Fetal distress	1
Abruptio placentae	1
Cephalopelvic disproportion	1
Repeat Cesarean Section n = 90	
Cephalopelvic disproportion/failure to progress	58
Fetal distress	10
Breech	8
Preeclampsia/eclampsia	4
Twins	3
Abruptio placentae	2
Cervical condylomata	1
Transverse lie	1
Post dates	1
Hidradenitis	1
Unknown	1

creasing but well behind major centers[13]), the morbidity and expense associated with operative delivery can be decreased. In 1984, approximately 292,000 repeat Cesarean sections were performed in the United States. If this could be reduced by 12 percent, approximately 35,000 fewer operative deliveries per year would be done, which would also decrease operative morbidity. In addition, the cost of two additional hospital days to recover from surgery, operating room costs, anesthesia, and the expense of the increased morbidity make elective repeat Cesarean section much more expensive than vaginal birth (approximately $2500 more at our institution).

Logically, nonrecurrent indications for primary Cesarean section such as fetal distress, breech presentation, twins, abruptio placentae, and preeclampsia should have the highest success rates with VBAC.[9] In reviewing the list of patients who underwent repeat Cesarean section in our study, many others were also eligible by objective criteria (Table 5). Unfortunately, many of these declined the offered trial of labor. Refusal may have been due to the apparent ease of a scheduled surgical procedure, the patients' lack of understanding of the morbidity associated with operative delivery, and the wish to avoid the discomfort of labor. These characteristics explain the differences between those with previous vaginal births who attempted a trial of labor and those who did not. All of this argues strongly for a continued emphasis on VBAC in appropriate patients, as well as the need to educate the general public on the benefits of vaginal birth versus operative delivery.

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