

Barriers to Completion of Desired Postpartum Sterilization

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ABSTRACT

Tubal sterilization is a highly effective, permanent, and safe method of contraception. Many women who desire postpartum sterilization do not obtain the procedure due to barriers. We performed a retrospective cohort study examining patients from a single obstetrics practice who delivered between 1/1/07 and 6/30/07 at Women and Infants Hospital in Providence, RI. During the study period, 626 women in the practice delivered. Of these subjects, 87 (14%) desired postpartum sterilization. Of these 87, 45 (51.7%) underwent sterilization as planned. In multivariable analysis controlling for age, BMI, delivery mode and marital status, older age (OR 2.15, 95% CI 1.12, 4.12, $p=0.02$) and cesarean delivery (OR 19.65, 95% CI 3.75, 103.1, $p < 0.001$) were associated with completion of postpartum sterilization and being married (OR 0.10, 95% CI 0.02, 0.56, $p=0.009$) and having a higher BMI (OR 0.60, 95% CI 0.39, 0.91, $p=0.02$) were associated with incompleteness. Only half of women who request postpartum sterilization antenatally end up obtaining the procedure.

KEYWORDS: postpartum sterilization, barriers, contraception, unintended pregnancy

INTRODUCTION

Tubal sterilization is a highly effective, permanent, and safe method of contraception. Tubal sterilization is the second most common method of contraception used by women in the United States and the most common among women over 30 years of age.¹ Approximately half of all tubal sterilizations are performed in the immediate postpartum period, following nearly 10% of all births in the United States.² Postpartum tubal sterilization can be performed during cesarean section or after vaginal delivery through a minilaparotomy. The procedure is convenient for the mother as she is already in the hospital for the delivery. Sterilizations after vaginal delivery are performed through a small infra-umbilical incision as the enlarged postpartum uterus facilitates access to the fallopian tubes. The procedure can be performed from

immediately after vaginal delivery up to 2 days postpartum. The advantages of doing the procedure immediately postpartum are that existing epidural anesthesia can potentially be used and the woman does not have to restrict food and drink in preparation for the procedure another day.³ Of note, sterilizations funded by Medicaid require that the woman be at least 21 years old and wait at least 30 days between signing the Medicaid consent form and having the procedure. Exceptions can be made for emergency abdominal surgery or preterm deliveries. If the sterilization is not performed postpartum and the woman still desires the procedure, it can be done at least 6 weeks after delivery either through a laparoscopic or hysteroscopic approach. This requires that the patient use reliable contraception postpartum until the sterilization can be performed and have extra visits to arrange the surgery.

Many women who initially request postpartum sterilization antenatally do not obtain one. While some women change their mind after delivery, other women confront barriers to completing the procedure. The purpose of this analysis is to determine the frequency with which desired postpartum sterilizations are not fulfilled, the reasons why these procedures are not performed, and to identify predictors of incompleteness. Secondary aims include assessing whether women received an interval sterilization or any other form of long-term contraception within a year of delivery, and determining whether these women became pregnant again within a year of delivery.

METHODS

We performed a retrospective cohort study examining women from a single obstetrics practice who delivered between 1/1/07 and 6/30/07 at Women and Infants Hospital in Providence, RI. The Women and Infants Hospital Institutional Review Board granted approval for the study protocol. Prenatal records for these women were reviewed and subjects who expressed a desire for postpartum sterilization during antepartum care were identified. Data collected included completion of required consent forms, whether or not the procedure was performed and if not, the reason why. For those subjects who did not receive desired postpartum sterilization, we recorded whether the patient received interval sterilization or any other method of long-term contraception within one year of delivery, and whether they had a repeat

pregnancy within one year of delivery. Other data collected included age, race/ethnicity, obstetric history, marital status, BMI, insurance status, trimester at initial prenatal visit, trimester at request for sterilization, gestational age at delivery, mode of delivery, and use of epidural analgesia.

Comparisons were made between women who did obtain their desired postpartum sterilization and those who did not. Descriptive statistics (means and percentages) for the baseline characteristics of the two study groups were compared using chi-square tests for categorical data and t tests for continuous data. Multivariable logistic regression was used to estimate adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for completion of postpartum sterilization. Variables associated with the outcome with $p < 0.1$ in the crude models were considered for the multivariable model. Some variables were collapsed for the regression analysis.

The statistical software packages SPSS 16.0 (SPSS, Inc., Chicago, IL) and STATA 10.0 (StataCorp, College Station, TX) were used for all data analyses.

RESULTS

During the study period, 626 women in the practice delivered. Of these subjects, 87 (14%) desired postpartum sterilization. Of these 87, 45 (51.7%) underwent sterilization as planned. Of the 42 women who did not receive the procedure, 22 (52.4%) changed their mind, 8 (19%) did not have the required Medicaid consent form signed, 4 (9.5%) had prior abdominal surgery that caused the provider to cancel the procedure due to anticipated difficulty, 2 (4.8%) had significant anemia causing the elective procedure to be cancelled, 2 (4.8%) were considered too obese to be able to technically perform the procedure, 2 (4.8%) had chorioamnionitis, 1 (2.4%) had an intrauterine fetal demise at term, and 1 (2.4%) had no documentation. Of those women who did not undergo a planned sterilization, 5 (12%) underwent an interval sterilization and 6 (14%) were pregnant again within a year after delivery. Table 1 compares selected clinical characteristics between those who did and did not receive a desired postpartum sterilization.

In multivariable analysis controlling for age, BMI, delivery mode and marital status, older age (OR 2.15, 95% CI 1.12, 4.12, $p = 0.02$) and cesarean delivery (OR 19.65, 95% CI 3.75, 103.1, $p < 0.001$) were associated with completion of postpartum sterilization and being married (OR 0.10, 95% CI 0.02, 0.56, $p = 0.009$) and having a higher BMI (OR 0.60, 95% CI 0.39, 0.91, $p = 0.02$) were associated with incompleteness. Parity, race, ethnicity, insurance type, gestational age at delivery, trimester of initial prenatal visit, and trimester of request for postpartum sterilization were not significantly different between the two groups; however, due to the population of predominantly Medicaid patients, the influence of insurance type could not be assessed.

DISCUSSION

Our study found that only half of women who request postpartum sterilization antenatally end up obtaining the procedure. While many women changed their mind at the time of delivery, failure to sign the required Medicaid consent form 30 days in advance was a significant contributor to incompleteness. In addition, we found that women who have had prior abdominal surgery or are obese should be counseled that postpartum sterilization may not be possible unless cesarean delivery occurs.

Table 1. Selected Clinical Characteristics According to Study Group

	Sterilization Completed	Sterilization Not Completed	p-value
Total	45	42	
Age	30.2 ± 5.2	26.6 ± 3.9	0.001
Race			0.50
White	15 (34.1)	17 (40.5)	
Black	4 (9.1)	8 (19)	
Asian	2 (4.5)	1 (2.4)	
Hispanic	22 (50)	16 (38.1)	
Other	1 (2.3)	0 (0)	
Marital Status			0.08
Married	8 (17.8)	15 (35.7)	
Divorced	2 (4.4)	4 (9.5)	
Single	35 (77.8)	23 (54.8)	
Insurance			0.70
Medicaid	41 (91.1)	36 (85.7)	
Private	3 (6.7)	5 (11.9)	
Self Pay	1 (2.2)	1 (2.4)	
BMI	31.1 ± 7.8	34.4 ± 7.2	0.05
Parity	2.98 ± 1.94	2.45 ± 1.09	0.13
Trimester of Request for Sterilization			0.70
First	4 (8.9)	3 (7.1)	
Second	15 (33.3)	11 (26.2)	
Third	26 (57.8)	28 (66.7)	
Gestational Age at Delivery (weeks)	38.3 ± 2.02	38.7 ± 3.21	0.46
Delivery Mode			0.001
Vaginal	24 (53.3)	37 (88.1)	
Cesarean	21 (46.7)	5 (11.9)	
Use of epidural			0.13
Yes	30 (66.7)	34 (81)	
No	15 (33.3)	8 (19)	

Data are mean ± standard deviation or n (%)

Missing data no greater than 3.4%

BMI, body mass index

The strengths of this study include a detailed review of prenatal and hospital records to identify women who requested postpartum sterilization and the reasons why the procedure was not performed. Limitations of the study include the small sample size and retrospective data collection. In addition, our study population was limited to a single obstetrics practice that serves women predominantly on Medicaid and may not reflect other obstetric practices. Furthermore, our hospital does not perform postpartum sterilization on the same day as vaginal delivery, unlike many other institutions. This may have influenced the completion rate, as women who had undergone vaginal delivery had to wait until postpartum day one to obtain their procedure. This increases obstacles such as operating room availability and patient convenience.

Other institutions have reported similar findings. A study of 712 women at a Chicago hospital showed that 46% of women requesting postpartum sterilization did not obtain the procedure. The investigators found that lack of valid Medicaid sterilization consent forms, a medical condition precluding the procedure, and lack of availability of an operating room were the most common reasons why the procedures were not performed.⁴ The same investigators also found that young age (21 to 25 years), African American race, request for sterilization in the second trimester, and vaginal delivery rather than cesarean section were risk factors for not obtaining a desired postpartum tubal sterilization.⁶ It is not surprising that cesarean section facilitates the completion of postpartum sterilization since the fallopian tubes are accessible through the Pfannensteil incision while a separate procedure is required after a vaginal delivery. The requirement for Medicaid consent at least 30 days prior to the procedure was developed to provide a window for women to think about their decision and prevent coerced sterilizations that had occurred in the past among disadvantaged populations. Nevertheless, our study and others demonstrate that this requirement often becomes a barrier for women who desire the procedure.^{4,5}

Another study of 429 women from San Antonio, Texas, found completion of desired postpartum sterilizations to be 69% and was more likely among women who were documented U.S. residents, married, of lower parity, and who had received prenatal care, and had private health insurance.⁵ In this study, completion of postpartum sterilization at the time of cesarean section was no different between documented and undocumented U.S. residents; however, after vaginal delivery, significantly more documented U.S. residents obtained the procedure. This is because undocumented U.S. residents on emergency Medicaid must pay out of pocket for sterilization after vaginal delivery but not at the time of cesarean delivery. Their follow-up study reported that, of the women who did not receive the requested sterilization, 46.7% became pregnant in the year after delivery.⁷

Our study was not able to show any differences in completion between types of insurance but most of our popula-

tion was on Medicaid. We are unable to explain why being married was associated with failure to complete postpartum sterilization in our study.

In conclusion, signing Medicaid consent forms in a timely fashion should be a priority during prenatal care and women should be counseled about effective alternatives to sterilization such as intrauterine devices and implants so that they can choose another method if needed. While some women may obtain sterilization after the postpartum period, those who do not are at risk for pregnancy. Improving access to postpartum sterilization, especially after vaginal delivery, is an important step towards reducing unintended pregnancy rates in the United States.

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Disclosures

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