When Patients Request the Knife – Cesarean Delivery on Maternal Request

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Abstract

Cesarean delivery on maternal request is defined as a prelabor cesarean delivery on maternal request in the absence of any maternal or fetal indications. There are many reasons underlying why women may desire this type of delivery versus planned vaginal delivery; anxiety over the birthing process, concern for perineal trauma during vaginal delivery, potential for urinary incontinence or pelvic organ prolapse, or the desire of selecting the date of delivery. Currently, there is a paucity of data examining the risks and benefits of cesarean delivery on maternal request versus planned vaginal delivery as most of the information is extrapolated from studies examining planned vaginal birth versus elective cesarean delivery. Nevertheless, there are theoretical risks and benefits to both the mother and fetus regarding cesarean delivery on maternal request, which is why clinicians should keep an open mind with patients who desire to proceed with this procedure. Providers need to engage in an ongoing conversation with patients who desire cesarean delivery on maternal request throughout their prenatal care. Discussion allows the clinician to understand the motivation behind a patient’s desire and also educates patients regarding the labor process and potential risks of cesarean delivery on maternal request. There is currently limited evidence to definitively support either decision at this time; therefore, the decision to proceed with cesarean delivery on maternal request should be individualized to each patient.

Case Vignettes

Case A

A 27 year old primagravida presents to the labor and delivery ward at 38 5/7 weeks of gestation complaining of a severe headache, scotomas, and epigastric pain. On presentation she has multiple severe range blood pressures. Further evaluation confirms a diagnosis of severe pre-eclampsia, and the provider recommends induction of labor and magnesium prophylaxis. On admission, the patient’s cervix is closed and thick. The patient’s provider explains in detail the events of induction of labor and side effects of magnesium sulfate. After hearing this discussion, the patient declines induction of labor and requests a cesarean section.

Case B

A 24 year old gravida 2 para 1-0-0-1 presents to the labor and delivery ward at 39 0/7 weeks of gestation with an obstetric history notable for a primary low transverse cesarean section for breech presentation. During the current pregnancy the fetus is found to be in the cephalic presentation. She has been counseled on the risks and benefits of a trial of labor after cesarean versus an elective repeat cesarean delivery. She desires to proceed with elective repeat cesarean delivery.

Discussion

Superficially both patients described in these vignettes appear to be similar: they are both requesting cesarean delivery. The motivation for cesarean delivery for the patient in Case A is for her concerns for a lengthy induction of labor that may not be successful and ultimately lead to a cesarean section twenty-four to forty-eight hours later. There is currently a heated debate on whether providers should perform cesarean delivery on maternal request as there is limited data at this time on the safety and ramifications of cesarean delivery on maternal request versus a planned vaginal birth. However, most providers would not argue against performing an elective repeat cesarean delivery for the patient in Case B. One reason patients with a uterine scar desire elective repeat cesarean delivery is for trepitation of uterine rupture. As a result, obstetricians do not hesitate in performing this procedure due to the maternal benefit of decreasing the risk of uterine rupture. Nevertheless, the composite maternal risk of uterine rupture decreases from 0.7-0.9% with trial of labor after cesarean to 0.4-0.5% with elective repeat cesarean delivery [1]. The decreased risk of uterine rupture is statistically negligible, which begs the question: why is there such controversy over cesarean delivery on maternal request?

Introduction

The rate of cesarean deliveries has drastically risen in the United States whereas 32.9% of births (1.3 million) in the United States occur via cesarean delivery [2]. One factor that may be contributing to the increase in the cesarean delivery rate is by performing cesarean deliveries on maternal request. Cesarean delivery on maternal request is a term that was adopted and endorsed by the 2006 National Institutes of Health state-of-the-science conference which they defined as a primary prelabor cesarean delivery on maternal request in the absence of any maternal or fetal indication [3,4]. There is limited data on the actual number of cesarean deliveries on maternal request, but estimates report that 2.5% of all births in the United States are performed for this reason [4]. Few studies examine the risks and benefits associated with intended mode of delivery. There are currently no randomized clinical trials that look at the differences between planned vaginal delivery versus cesarean delivery on maternal request. Most of the data on cesarean delivery on maternal request is extrapolated from the Term Breech Trial which is an international multicenter trial that compared planned cesarean delivery with planned vaginal delivery [4]. Recognizing that there are limitations in offering evidence based recommendations, this article will highlight the various considerations to take into account when confronted by patients who request cesarean delivery on maternal request.
Motivation Behind Cesarean Delivery on Maternal Request

There are a plethora of reasons underlying why patients may request cesarean delivery on maternal request (Table 1). One of the primary reasons patients consider cesarean delivery on maternal request is to avoid the elements and repercussions of vaginal delivery. Anesthesia during the labor process is a significant concern for laboring patients. Uncertainty on whether adequate anesthesia will be available or concern for anesthetic failure during labor may lead women to desire cesarean delivery versus planned vaginal delivery. Another concern, primarily among primagravida women, is perineal trauma during the birthing process and potential sequelae of dyspareunia and chronic pain. Women who are considering a large family may also have concerns regarding multiple vaginal deliveries that could increase bowel/bladder incontinence and severity of pelvic organ prolapse [5,6]. The overall lifetime risk of undergoing at least one surgery for vaginal pelvic organ prolapse and urinary incontinence is 11.1% [7].

Another consideration that may be taking part in a patient’s desire to proceed with cesarean delivery on maternal request is a history of sexual trauma or abuse. Women who have been sexually abused may have significant anxiety over the labor process, which often involves multiple cervical checks by unknown providers as well as the presence of multiple labor and delivery personnel at the time of delivery. Instead of being a moment of celebration for the birth of their infant, labor may create significant anxiety and distress, leading patients to request cesarean delivery on maternal request.

Another advantage of planning for a cesarean delivery on maternal request is the ability to determine the date and time of delivery. Instead of waiting until spontaneous labor, a patient has the opportunity to schedule their delivery date around their own schedule. Moreover, as seen in the patient in Case A, patients may also desire to proceed with cesarean delivery rather than undergoing a lengthy induction of labor for a maternal or fetal indication.

Finally, women may also be motivated to undergo cesarean delivery on maternal request to avoid rare neonatal outcomes. Women may be motivated to proceed with cesarean delivery on maternal request to avoid the risks of possible intrauterine fetal demise. Women with a history of genital tract infections or Group B Streptococcus may be concerned about transmission of the pathogen to the fetus and instead desire to proceed straight with cesarean delivery. Lastly, women may desire cesarean delivery rather than planned vaginal delivery to avoid birth trauma to the infant such as nerve, bone, or ischemic injuries that may be caused from a shoulder dystocia.

Benefits of Cesarean Delivery on Maternal Request

There are multiple potential benefits of proceeding straight with cesarean delivery versus planned vaginal delivery (Table 2). One benefit of cesarean delivery on maternal request is lower incidence of postpartum hemorrhage and need for maternal transfusion [4]. Nevertheless, it is also important to consider the limitations on adequately comparing the amount of postpartum bleeding after a vaginal birth versus cesarean delivery secondary to the imprecise ways we calculate estimated blood loss doing both procedures. Patients who undergo cesarean delivery on maternal request are also at a lower risk for surgical complications than women who attempt a vaginal birth but need to undergo a cesarean delivery during the second stage of labor [4]. Regarding urinary incontinence, although there is a decreased rate for urinary incontinence in the first year after cesarean delivery, there is no difference in stress urinary incontinence rates at two and five years [4,8,9]. Additionally, the Term Breech Trial showed that the protective effect of urinary incontinence among women who underwent elective cesarean delivery disappeared after menopause [9].

Vaginal parity is a well-known risk factor for female pelvic organ prolapse which is a significant source of female morbidity in the United States [10]. The process of vaginal birth rather than pregnancy itself is what leads to the irreversible over-distention of the levator hiatus muscles [11]. Additionally, in a minority of women, the levator ani muscles are torn from their origin site during crowning of the fetal head [12,13]. These factors contribute to an increased risk for prolapse development and recurrence in which 13-36% of vaginally parous women will experience female pelvic organ prolapse [11,12,14,15]. Although not specifically studied, one can safely assume cesarean delivery on maternal request will have a decreased rate for vaginal pelvic organ prolapse but there is no evidence that quotes a specific relative reduced risk.

Fetal

Potential fetal benefits of performing cesarean delivery on maternal request include decreased fetal mortality rates, lower risk

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Table 1: Motivation for Cesarean Delivery on Maternal Request.

<table>
<thead>
<tr>
<th>Anxiety</th>
<th>Risk of Urinary Incontinence/Pelvic Organ Prolapse</th>
<th>Convenience of Knowing Delivery Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Concern for adequate anesthesia</td>
<td>- Decreased risk of postpartum hemorrhage and need for transfusion</td>
<td>- Decreased risk of fetal injury</td>
</tr>
<tr>
<td>- History of sexual abuse or trauma</td>
<td>- Decreased rate of surgical complications</td>
<td>- Shoulder dystocia</td>
</tr>
<tr>
<td>- Perineal trauma</td>
<td>- Lower rates of pelvic organ prolapse</td>
<td>- Nerve injuries</td>
</tr>
</tbody>
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Table 2: Risks and Benefits of Cesarean Delivery on Maternal Request.

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Maternal</td>
<td>- Maternal</td>
</tr>
<tr>
<td>o Decreased risk of postpartum hemorrhage and need for transfusion</td>
<td>o Increased hospital stay</td>
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<tr>
<td>o Decreased rate of surgical complications</td>
<td>o Higher incidence of infection</td>
</tr>
<tr>
<td>o Lower rates of pelvic organ prolapse</td>
<td>o Higher rate of venous thromboembolic disease</td>
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<tr>
<td>- Fetal</td>
<td>- Fetal</td>
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<tr>
<td>o Lower rate of fetal mortality</td>
<td>o Higher incidence of transient tachypnea of newborn, respiratory distress syndrome, and persistent pulmonary hypertension</td>
</tr>
<tr>
<td>o Decreased hospital stay</td>
<td>o Decreased birth injury</td>
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<tr>
<td>o Lower infection rates</td>
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for neonate respiratory problems, decreased neonatal infection, and a shorter length of hospital stay (Table 2). There are also fewer birth injuries during planned cesarean delivery versus planned vaginal delivery and a reduced risk for intracranial hemorrhage, neonatal asphyxia, and encephalopathy [3]. While there is potential for injury to the fetus during cesarean delivery; however, the risk of fetal laceration during elective cesarean delivery is 0.8% versus a 1.4–1.5% rate during an unscheduled cesarean delivery [15].

The NIH state-of-the-science panel acknowledges that truncating pregnancy near 39 weeks prevents a small number of stillbirths [4]. The rate of antepartum or intrapartum death from beyond 39 weeks is about 2 in 1000; most of these deaths occur in fetuses with no known congenital malformations [16]. Additionally, the rates of aspiration of meconium increases in fetuses born after 39 weeks [16]. However, one study showed that 1288 cesarean deliveries on maternal request would have to be performed in order to prevent 1 stillbirth [17].

One last potential benefit of performing a scheduled cesarean delivery on maternal request is to possibly limit human error. Previous studies that have shown that increasing fatigue leads to increased medical mistakes has led to resident physician work hour restrictions during this past decade. Scheduled cesarean delivery may lead to decreased rates of maternal/fetal morbidity secondary to medical error that may be associated with potentially inadequate levels of staffing and fatigue among health care providers [16].

**Risks of Cesarean Delivery on Maternal Request**

**Maternal**

Although planned cesarean delivery has been associated with a decreased hospital stay and decreased infection rate for the infant, planned cesarean delivery, has been shown to lead to increased maternal hospital stay and maternal infection rates (Table 2). There is also an increased risk of venous thromboembolic disease [18]. Fear of inadequate pain relief may lead women to proceed with cesarean delivery on maternal request but it is important to note that there are increased rates of anesthetic complications during cesarean delivery from spinal or epidural anesthesia [4]. Women who desire to breastfeed should also be aware that elective cesarean delivery has been shown to be associated with lower breastfeeding rates. However, it is also important to mention that the breastfeeding rates do not differ by the mode of delivery at three and twenty-four months after delivery [8,19].

Women who desire to undergo cesarean delivery during their first delivery are more likely to undergo cesarean delivery in subsequent deliveries [20]; as a result, women must understand the ramifications associated with multiple cesarean deliveries such as increased risk for uterine rupture, placenta previa, and bladder/bowel injuries [18]. The rates of placenta accreta also significantly increase with each subsequent cesarean delivery: 1 (0.2%), 2 (0.3%), 3 (0.6%), 4 (2.1%), 5 (2.3%), 6 (6.7%). Moreover, the rates of hysterectomy also dramatically increase with each subsequent cesarean delivery: 1 (0.27%), 2 (0.4%), 3 (0.9%), 4 (2.4%), 5 (3.5%), 6 (9.0%) [21].

Maternal death is extremely rare in developed countries but it is important consideration for both patients and clinicians. Given cesarean delivery is a major abdominal surgery, one may assume that cesarean delivery on maternal request is associated with a significantly increased risk for maternal death. There is currently no evidence in the literature that examines mortality rates among women choosing cesarean delivery on maternal request. As a result, one must extrapolate data from studies examining the overall mortality rates of cesarean delivery and also the mortality rates of planned cesarean delivery versus planned vaginal delivery. Previous studies in the United States have illustrated that the risk of postpartum death is 3.6 times higher after cesarean section than vaginal delivery (OR 3.64, 95% CI 2.16-6.19) [22]. These findings are similar to studies published in the United Kingdom quoting a 4.9 increased risk for maternal mortality when comparing cesarean delivery to vaginal delivery [23]. Although the rate of maternal mortality is low in developed countries, the increased risk of maternal death translates into 140 women dying in the United States each year from a non-medically indicated cesarean section [24]. Furthermore, calculations from the United Kingdom demonstrate that maternal death may be as high as 1 in 4262 for mothers undergoing elective cesarean delivery [25].

**Fetal**

The primary fetal risk of performing elective cesarean delivery revolves around respiratory morbidity (Table 2). Infants delivered via elective cesarean delivery are at an increased risk for transient tachypnea of the newborn, respiratory distress syndrome, and persistent pulmonary hypertension. These rates have all been higher amongst infants undergoing elective cesarean delivery versus vaginal delivery when the delivery occurs less than 39–40 weeks [26,27].

**Important Considerations**

Clinicians need to have an extensive discussion with the patient to understand her motivation for cesarean delivery without medical indication. The clinician needs to closely weigh the benefits with respect to safety of the mother and fetus to the risks of adverse outcomes for the mother and fetus. The patient needs to also consider the total number of children she desires as clinicians need to educate patients on the risks of undergoing multiple cesarean deliveries. Although she may only desire a small family, it is important for providers to disclose that more than half of pregnancies in the United States are unintended. There should also be a discussion on critical life experiences of the patient such as previous trauma, sexual abuse or violence, and poor obstetric outcomes. For a patient that is anxious about the birthing process, a thorough discussion on the labor process and options for anesthesia should be discussed with each patient. Often times after this discussion, patients desire to proceed with planned vaginal birth rather than their original desire for cesarean delivery on maternal request.

Clinicians should consider how to approach patients who desire to undergo cesarean delivery on maternal request during active labor. Prior to allowing cesarean delivery on maternal request, clinicians and patients must engage in extensive counseling on the risks and benefits of planned cesarean delivery versus planned vaginal delivery. Once labor starts, it is difficult to adequately obtain informed consent for cesarean delivery on maternal request. This is not to say that a woman in labor does not have the capacity to make informed medical decisions. Rather, decisions about elective surgery such as a cesarean delivery on maternal request that have inherent lifelong risks should be made during the prenatal period and not during the intrapartum period. An analogous situation is the clinician who will not perform a postpartum tubal ligation on a woman whose first request and discussion occurs during her admission for labor [28]. Additionally, once the labor process has begun, one can no longer quote the same risks and benefits that have previously been discussed in this article with regards to planned vaginal birth versus planned elective cesarean delivery. There are increased risks to both the mother and fetus by
performing cesarean delivery during the second stage of labor than prior to the start of labor. It is important to reiterate here that the definition of cesarean delivery on maternal request as a request for a primary prelabor cesarean delivery. Therefore, this author is of the opinion that there is no ethical justification for performing a cesarean delivery on maternal request during labor and clinicians have a responsibility to reject such requests during labor.

The risks and benefits of mode of delivery must be evaluated within the context of the governing ethical principles involved. The crux of the Hippocratic Oath is nonmaleficence. Providers need to ensure that more good than harm is being performed by performing a cesarean delivery on maternal request and must work with patients to determine if the benefits of performing this procedure for their specific situation outweigh the risk. For example, there is a significant difference with respect to beneficence on performing an elective cesarean delivery on a twenty-one year old female who desires to have a large family versus the forty-five year old woman who desires no future children. Clinicians also must be cognizant of the ethical principle of autonomy. Women who have capacity to make medical decisions and who have undergone the informed consent process have the right to choose their medical treatment. Denying women a cesarean delivery on maternal request is tantamount to a forced vaginal delivery and denying her of her right to select her own medical treatment.

There are currently different views among various societies on the ethical justification for performing cesarean deliveries on maternal request. The American College of Obstetrician and Gynecologists state that “if the physician believes that cesarean delivery promotes the overall health and welfare of the woman and her fetus more than vaginal birth, he or she is ethically justified in performing a cesarean delivery. Similarly, if the physician believes that performing a cesarean delivery would be detrimental to the overall health and welfare of the woman and her fetus, he or she is ethically obliged to refrain from performing the surgery” [29]. This is in contrast to the International Federation of Gynecology and Obstetrics guidelines that state “because hard evidence of net benefit does not exist, performing cesarean sections for nonmedical reasons is ethically not justified” [30].

Furthermore, allowing elective cesarean delivery on maternal request will likely create a slippery slope for all medical fields. If an obstetrician performs a cesarean delivery on maternal request to avoid the potential risk of birth trauma to the infant, then how should the general surgeon respond to the patient who desires to have an elective appendectomy to avoid possibly having to undergo emergent surgery for a ruptured appendix?

Finally, providers need to also take into account the financial burden that cesarean delivery on maternal request may have on both regional and national levels. This is paramount in the United States where current reform demands for cost effective healthcare. The American College of Obstetricians and Gynecologists acknowledges that research is needed on this subject to determine the additional cost that cesarean delivery on maternal request will have on the healthcare system [3]. Estimates from the United States shows that the average uncomplicated vaginal delivery costs $4490 versus $6946 for cesarean delivery; additionally, the cost of a complicated vaginal delivery is $5560 versus $8553 for a complicated cesarean delivery [31]. In the United Kingdom, cesarean section costs £760 more than a vaginal delivery in which estimates show a 1% decrease in their cesarean section rate nationally would save 5 million pounds [32]. As of 2006, the rate of vaginal birth after cesarean section in the United States was only 8.5%; therefore, cesarean section on maternal request will likely increase both the primary and repeat cesarean delivery rates [1]. Research is needed to address the additional cost that cesarean section on maternal request will have on healthcare systems. Specifically, researchers and health care administrators will also need to consider the added cost of possible readmission from cesarean delivery complications, increased cost from potential repeat cesarean deliveries, and possible cost of complications from repeat cesarean deliveries (i.e. fertility complications, placenta accreta).

**Recommendations from Governing Bodies**

A panel of experts in 2006 reviewed over 1,400 articles during the National Institutes of Health State-of-the-Science Conference on Cesarean Delivery on Maternal Request to determine recommendations for cesarean delivery on maternal request. They determined that the current evidence did not provide for a basis for recommendations on either mode of delivery [4]. The American College of Obstetricians and Gynecologists also acknowledges that there is minimal data on cesarean delivery on maternal request compared to planned vaginal delivery. Nevertheless, the Committee on Obstetric Practice offers the following recommendations based on the April 2013 ACOG Committee Opinion on Cesarean Delivery on Maternal Request [3]:

1. In the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended.
2. The following is recommended in cases in which cesarean delivery on maternal request is planned:
   a. Cesarean delivery on maternal request should not be performed before a gestational age of 39 weeks.
   b. Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management.
   c. Cesarean delivery on maternal request particularly is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy increase with each cesarean delivery.

**Conclusion**

In the meantime, how do we respond to patients such as those in Case A when asked to perform a cesarean delivery on maternal request? With respect to beneficence, is performing a cesarean delivery for the patient in Case A safer than undergoing induction of labor? In accordance with patient autonomy, can we as clinicians tell this patient who has capacity to make medical decisions that we will not agree with her request? Clinicians should convey the appropriate level of equanimity regarding the limited evidence that is available to be able to adequately counsel our patients on the risks and benefits of planned cesarean delivery versus planned vaginal delivery. Although current evidence does not support the routine recommendation for elective cesarean delivery, the decision to perform cesarean delivery on maternal request needs to be individualized based on each patient’s respective motivation and personal goals.

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References


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