



Approach to Lower the Caesarean Delivery Rate - Preventing the First Caesarean



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Introduction

Of late there has been a great buzz about the abnormal rise in the caesarean rate in most of the countries, raising a concern. In some this is more apparent under the private health care facilities. In fact this upward trend has been observed since the beginning of this century. As per recent data over 30 % women are experiencing a caesarean delivery (CD). In 2014, in the United States, 32.2% of pregnant women delivered through this bypass, accounting for over one million surgeries [1]. This upward trend to rely on the surgical delivery during the closing years of the last century did not convert into better outcomes

for the mother and foetus as no clear evidence of concomitant decreases in maternal or neonatal morbidity or mortality was presented.

With the OBG professional bodies acknowledging the need to address this burgeoning trend for CD, which may be seen as commercially/profit driven, a new set of guidelines have been framed to highlight the need to prevent first CD. The CD once done would make the next a likely repeat CD, if the TOLAC/VBAC does not have a favourable outcome. Is CD being over used?

Has it become a tool for commercial exploitation? OR is there a gap in training of the obstetricians to be skilful to handle abnormal presentations /prolonged labour whereby CD is chosen as an escape route?

It is not easy to determine and specify an ideal CD rate as it varies according to multiple factors. The most common indications for caesarean delivery include labour abnormalities, variation in the foetal heart rate tracing, foetal mal position / mal-presentation and placental factors. It is vital not to ignore the effects that a primary CD will have on the subsequent pregnancies and delivery choices. To address this concern the Department of Health and Human Services in the United States have set a target to lower the CD rate to 23.9% by 2020 [2].

This dramatic rise in the rate of caesarean delivery is due in part to an increase in frequency of primary caesareans, when over 90% would require a repeat section. It brings forth two major concerns- one, the increased risk of maternal complications in the index operative delivery, and secondly the impact on the future deliveries, like encountering peritoneal adhesions increasing the risk of surgical trauma to the bowel and bladder, abnormal placentation like placenta praevia/accreta, and uterine rupture with consequent catastrophic outcomes for the mother and the foetus due to excessive haemorrhage [3]. Safe reduction of the primary caesarean delivery rate will require varying approaches for various indications, depending upon individual preferences or institutional guidelines. Increasing reliance on non-medical interventions like external cephalic version for breech presentation and a trial of labour can effectively contribute to reducing primary caesarean birth rates.

Given the risks associated with the initial caesarean and its implications for subsequent pregnancies, the most effective approach to reduce overall morbidities related to caesarean delivery is to avoid the first caesarean. While professing this approach it is pertinent that the overall maternal and perinatal morbidity and mortality is maintained at the lowest possible levels achievable.

Analysing the Indications for Primary Caesarean Delivery

A view to ascertain the preventable ones could be the first step in reducing the primary caesarean delivery rate. Barring the absolute indications for caesarean like major degree of placenta praevia, cord prolapse etc. some of the indications, as mentioned below, can be considered as modifiable: Mal-presentations, (Scope of ECV), Multiple gestations, Hypertensive disorders (Trial of Labour), Maternal request, Arrest of labour-First or Second-stage (clearer identification of Active phase of labour), Non-reassuring foetal heart rate (amnio- infusion may be an

option) From the list above, it is obvious that the interpretation by the caregiver can be the deciding factor, hence considered modifiable. A meaningful avoidance in each individual indication will finitely contribute towards an overall reduction in the primary caesarean delivery rate and all unneeded surgeries [3].

Another trend worth highlighting is the perception among both the patients and the obstetricians regarding the safety of a vaginal delivery vis a vis caesarean delivery. An undue concern about vaginal delivery combined with relative indifference regarding the risks of surgical intervention based on improper or inadequate clinical evidence makes caesarean delivery a likely outcome. Their respective attitudes are the other potentially modifiable factors.

Promoting a safe vaginal delivery by placing the facts in an unbiased and professional manner will improve the vaginal delivery rate. Nonetheless, likewise when the caesarean delivery is indicated the patient should be explained the risks of the surgery as well as the short and long term effects of the choice made. If it is made mandatory to list the modifiable indications for CD as “non-indicated Caesarean”, the rate of primary caesarean may see a downward trend as the professional audit, if performed regularly as an institutional requirement, can act a deterrent for such unneeded caesareans [4].

The institutional guidelines can be more specific and consistent with the accepted indications for a caesarean. Those performed under the labels of “ non-reassuring foetal tracing’, “failed induction”, “labour arrest” etc. if subjected to stringent scrutiny, to analyse and provide relevant feedbacks, can be useful to reduce the rate of primary caesarean [5].

Achieving higher rate of vaginal delivery

During the routine antenatal visits it should be impressed upon the patient, especially the primi-gravidas that a vaginal delivery is a natural birth process and she should be encouraged to seek her answers to any queries. Likewise, conducting the antenatal classes where antenatal exercises are explained and practised so as to prepare the woman for a vaginal delivery need to be implemented. The discussion with the attending physician about the management of the pregnancy and delivery can have a profound effect on the choice of route of delivery. The discussion regarding the practice of presence of the partner in labour suite, place of the neuro-axial anaesthesia during labour, indications for induction/augmentation of labour and evaluation of foetal status during labour may prove to be relevant for a successful vaginal delivery.

Induction of Labour

While analysing this trend of the increase in caesarean deliveries, the impact of the current practice of pro-active inductions of labour cannot be overlooked. The protagonists for induction of labour have a view point of theirs. Also there has been ample data suggesting that successful vaginal delivery

outcome is lesser in induced labour than spontaneous onset labour, more so if the induction is done in nulliparous women with low Bishop’s score.

Induction of labour should involve a proper selection of patients where successful outcome is more likely, and to achieve this there should be clearly defined protocols in place specifying the definition of favourable cervix, options for cervical ripening, definition of failed induction and active phase of labour. Once a decision for Induction has been taken based on a relevant indication, the status of cervix should be the next consideration because an unfavourable cervix can have a negative impact on the progress of labour thus potentially increasing the likelihood for a caesarean delivery. However this should not stand in the way of choosing to induce.

The documentation of the Bishop’s score as a component of risk-benefit assessment will bring about the relevance of medically-indicated induction. A Bishop’s score greater than 8 generally confers the same likelihood of vaginal delivery with induction of labour as that following spontaneous labour, and thus has been considered to indicate a favourable cervix [6] Conversely, a Bishop’s score of less than 6 suggests an unfavourable cervix and counts as a higher risk for a caesarean delivery. The use of cervical ripening agents is not shown to reduce the likelihood of caesarean delivery but can affect the duration of labour.

The intent of induction should be to achieve a vaginal delivery, and adequate time should be allowed for the progress of labour to be assessed, provided the maternal and foetal condition is stable. Using well defined criteria to determine failure of progress or failure of induction will help eliminate unnecessary caesarean deliveries. The diagnosis of failed induction should be reserved for those women who fail to develop 3 contractions in 10 minutes and no change in cervical status after at least 24 hours of oxytocin administration, with artificial membrane rupture if feasible. Studies have shown that in women undergoing labour induction over half of them had prolonged latent phase for at least 6 hours, and another nearly 20% with as long as 12 hours or longer [7]. In another multi-centre study, successful vaginal delivery was achieved in nearly 40% of the women still in latent phase after 12 hours of oxytocin and membrane rupture. This data suggests that induction should not be defined to have failed in the latent phase unless oxytocin has been administered for at least 24 hours, or for 12 hours after membrane rupture [8,9]. Individualising the management for each case should be the guideline for induction.

Management of Labour

Some authors have eluded to the observation about the style of management of labour could also be a factor driving the increased caesarean rate. The diagnosis of prolonged labour vs arrested labour may be differently applied across the various facilities or could be dependent upon the expertise and the

experience of the attending physician/midwife resulting in surgical intervention.

Probably it's time to revisit our understanding of mechanism of labour. The latent phase does not much vary between the nulliparous and multiparous women in labour, while the accelerated phase during the active phase shows a visible difference between these gravidas. The new guidelines from The American College of Obstetricians and Gynaecologists and the Society for Maternal-Foetal Medicine recommend that the active phase of labour should be considered after a cervical dilatation of 6 cm, which if applied in practice would eliminate those cases where the arrested labour has been diagnosed after failure to progress beyond 4-5 cm dilatation [10].

This has been seen more among those who check into the delivery suite in early labour, when the cervical dilatation may be just 3 cm or so, and may take between 6-7 hours for the changes to occur, resulting in diagnosis of arrested/protracted labour with the anticipated consequences [11].

Analgesia during labour

Use of epidural analgesia prolongs the total duration of labour. On the benefit side a good analgesia encourages a woman in labour to persist with natural process of delivery thus obviating surgical intervention. The practice of neuraxial analgesia should not be delayed or denied.

Operative vaginal delivery

It is a well documented fact that where operative vaginal deliveries are resorted to more often it results in reduced caesarean rate. On the contrary the reverse is equally relevant. The training for the use of the vacuum or forceps should be given the needed priority [12].

Foetal status during labour

Electronic foetal monitoring (EFM) remains the mainstay for evaluating the foetal status during labour. The option of the continuous monitoring or intermittent auscultation does not alter the outcome in the low risk pregnancies. Some studies have, however, linked continuous EFM to higher caesarean rates as well. This may be related to an inter observer variation in interpretation.

Summary

In summarizing, it can be stated that there are many factors that can be contributing to the primary caesarean rate. Identifying the modifiable factors and addressing the issues is the first step to reduce the overall caesarean rate in the future. The cascading effect of caesarean rate of over 30% can be detrimental for the health service facilities both in the monetary as well as human factors (affecting both the patient and the physician). It is imperative to acknowledge this concern and bring out requisite strategies/ guidelines that address it.

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