Original Article

Comparison of Routine Versus Restrictive Episiotomy in Term Pramigravidas with Singleton Pregnancy

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Abstract

Objective: To compare routine versus restrictive episiotomy in term pramigravidas with singleton pregnancy.
Methodology: A randomized controlled trial was conducted in the Department of Gynecology at Lahore General Hospital, Lahore from June 2020 till Dec 2020. Pregnant primiparous women aged 18-40 years, with a viable fetus weighing less than 4000 grams, a gestational age of ≥ 37 weeks, a BMI of less than 30, and no history of pelvic surgery or neuromuscular diseases, were included. The women were randomly allocated into two groups. In group I, women underwent routine prophylactic mediolateral episiotomy when crowning occurred. In the second group, episiotomy was performed only when specified maternal or fetal indications required it to facilitate vaginal delivery.
Results: The overall mean age of the cases was 28.92 ± 6.29 years, with the routine group having a mean age of 29.41 ± 6.52 years, and the restrictive group having a mean age of 28.44 ± 6.03 years. In the restrictive group, 10 cases (5.9%) had an intact perineum, while only 3 cases (1.8%) in the routine group had an intact perineum. The frequency of an intact perineum was significantly lower in the restrictive group compared to the routine group (p = 0.048). The mean blood loss in the routine group was 249.24 ± 51.02 ml, while in the restrictive group, it was 226.45 ± 14.77 ml. The mean blood loss in the restrictive episiotomy group was significantly lower than in the routine episiotomy group (p-value < 0.001).
Conclusion: As per the findings of this study the restrictive group yielded observed with better outcome in terms of higher intact perineum rate and less blood loss when compared with routine group.
Keywords: Episiotomy, Primigravida, Perineal Tears, intact perineum, Blood loss.

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Introduction

Episiotomy is a surgical procedure that entails cutting the perineum to widen the vaginal opening during the final stages of labor or delivery.[1] It is among the most commonly performed surgical interventions for women, with estimates suggesting that it is conducted in approximately 25% of vaginal deliveries.[2] The practice of performing episiotomy during vaginal births has been a standard tool in obstetrics for over a century, forming a traditional part of obstetricians' procedures.[3] Globally, there is significant variability in the practice of episiotomy, with some practitioners employing it routinely in all deliveries, while others reserve its use strictly for specific clinical indications, adopting a more restrictive or selective approach.[4]

Episiotomy has long been a contentious issue in obstetrics, with disputes raging over whether standard or restrictive episiotomy should be used in primiparous women. Once routine, the practice of doing an episiotomy was then used on a case-by-case basis due to the belief that it could decrease severe perineal tears and shorten duration of labor. The conventional wisdom, which has held since episiotomy was first introduced in the 18th century and continues to find its way into most of today's medical reference books on

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pregnancy and childbirth (inconvenient as all those footnotes must be to include), is that the formal cutting of the perineum (the area between the vagina and anus) during labor will prevent even worse damage.[5]

Yet several new studies suggest otherwise: Some women, at least, may fare better if left UNTAMPERED with--at least when it comes to modern obstetrics' favorite slicing technique. In a Cochrane review comparing 12 trials of greater than 6,000 women, the authors concluded that a policy of restrictive episiotomy was associated with fewer severe perineal tears, less need for suturing, and less posterior perineal trauma compared to routine episiotomy.[6] Furthermore, the study of Jiang et al. found that adopting a restrictive episiotomy policy was linked to less risk of postpartum hemorrhage and reduced hospital stay.[7] Advocates of the restricted episiotomy approach have claimed that routine episiotomies may actually increase the number of complications, including pain, prolonged healing and adverse sexual sequelae.[5] A study by Dannecker et al. compared with reception of perineal care protocol; because it was observed that the women that underwent episiotomy in protocol were significantly more likely to experience perineal pain at 2 and 12 weeks postpartum than those treated according restrictive episiotomies policy.[8] In addition, a systematic review by Kalis et al. show that a restrictive episiotomy may yield better long-term results, such as with sexual function and pelvic floor muscle strength at least in the postpartum period. In contrast, some clinicians continue to endorse routine episiotomy for larger fetal head or difficult perineum.

A study by Räisänen et al. showed an association of routine episiotomy with a decrease in the risk of severe perineal trauma among cases by macrosomic infants (birth weight >4,000 g). Conflicting results have put this finding into question; other studies have failed to consistently replicate these findings though.[9] The trend over the past several years has been to use episiotomy less often, with a number of professional bodies (e.g., the American College of Obstetricians and Gynecologists [ACOG]) recommending an episiotomy be restricted.[9,10] This change in practice is corroborated by an increasing interest of the scientific community in the proof that a policy of restrictive episiotomy can make it possible to achieve better maternal and neonatal outcomes without harming obstetrical safety. Routine episiotomy versus selective episiotomy in primiparous term women is debated and the existing belief among obstetricians that a more restrictive approach is beneficial, may be changing. Nevertheless, more local-level research would still be required to determine what the long-term consequences of these practices are if it were generalized and in which specific clinical scenarios an episiotomy may be justified. We, therefore undertook this study to compare routine versus restrictive episiotomy in term primigravidas with singleton pregnancy.

Methodology

This randomized controlled trial was conducted at Department of Gynecology, Lahore General Hospital Lahore. This study was completed in 6 months from June 2020 till Dec 2020. Non-probability consecutive sampling was used. A sample of 340 women was calculated by WHO sample size formula using proportion of intact perineum 4.5% in selective groups while 0% in routine group with 8% power of study, 95% confidence level.[7] All the pregnant primiparous women aged 18-40 years, with a viable fetus weighing less than 4000 grams, a gestational age of ≥ 37 weeks, a BMI of less than 30, and no history of pelvic surgery or neuromuscular diseases, were included. Abnormal and cephalic presentations with occipitoposterior position, instrumental delivery (vacuum or forceps), any definite indication for cesarean section (e.g. fetal distress) and women with fetal abnormality and intrauterine growth retardation (IUGR) were excluded. After taking informed consent, all data was taken from department of obs and gynecology, LGH. After taking demographic information women were randomly allocated into two groups using lottery methods. The first group underwent routine prophylactic mediolateral episiotomy at crowning (surgical incision given at a point at midline raising an angle between 40 and 60 degree to the left or right of the anal canal in all births).

In the second group episiotomy was carried out to facilitate vaginal delivery just when specified maternal or fetal indications had occurred, based on the decision of the physician (Episiotomy only given in cases where clinically indicated for example complicated vaginal delivery (prolonged labour, shoulder Dystocia, fetal distress and abnormal fetal position) and scarring from female genital cutting. Outcome like blood loss and intact perineum was measured as per operational definition. All data was collected by researcher herself of attached proforma. All collected data was entered and analyzed using SPSS 22. Qualitative data like intact perineum was presented in form of frequency and percentage. Quantitative data such as maternal

age, gestational age, blood loss was presented in form of mean and standard deviation. Chi-square test was applied to compare intact perineum in both study group and independent sample t-test was applied to compare mean blood loss. P value ≤ 0.05 was considered as significant.

Results

The mean age in all cases was 28.92 ± 6.29 years while mean age in routine and restrictive group was 29.41 ± 6.52 years and 28.44 ± 6.03 years. The mean weight, height and BMI all study subjects were 69.62 ± 12.11 kg, 1.64 ± 0.12 m and 26.26 ± 3.34 respectively. The mean gestational age in all subjects was 38.83 ± 1.47 weeks while mean gestational age in routine and restrictive groups was 38.86 ± 1.46 weeks and 38.80 ± 1.47 weeks (Table I)

Table I: Descriptive statistics of age, BMI and gestational age in both study groups

Episiotomy group	Mean±SD	Minimum	Maximum
Age (years)			
Routine (n=170)	29.41±6.52	18.00	40.00
Restrictive (n=170)	28.44±6.03	18.00	40.00
Total (n=170)	28.92±6.29	18.00	40.00
Weight (kg)			
Routine (n=170)	68.98±12.15	52.00	102.00
Restrictive (n=170)	70.26±12.07	51.00	106.00
Total (n=170)	69.62±12.11	51.00	106.00
Height (m)			
Routine (n=170)	1.65±0.13	1.46	1.93
Restrictive (n=170)	1.63±0.11	1.44	1.92
Total (n=170)	1.64±0.12	1.44	1.93
BMI			
Routine (n=170)	25.96±3.29	20.30	34.20
Restrictive (n=170)	26.56±3.36	20.25	33.20
Total (n=170)	26.26±3.34	20.25	34.20
Gestational Age (weeks)			
Routine (n=170)	38.86±1.46	37.00	41.00
Restrictive (n=170)	38.80±1.47	37.00	42.00
Total (n=170)	38.83±1.47	37.00	42.00

There were 10(5.9%) cases that had intact perineum in restrictive group and 3(1.8%) cases in routine group had intact perineum. The frequency of intact perineum was significantly higher in restrictive group as compared to routine group, p- 0.048. The mean blood loss in routine group was 249.24 ± 51.02 ml and in restrictive group was 226.45 ± 14.77 ml. The mean blood loss in restrictive episiotomy group was significantly lower than routine episiotomy group, p-0.001. (Table II)

Table II: Comparison of intact perineum in both study groups.

	Study groups of Episiotomy		Total	P value
	Routine	Restrictive		
Intact perineum				
Yes	3(1.8%)	10(5.9%)	13(3.8%)	0.048
No	167(98.2%)	160(94.1%)	327(96.2%)	
Total	170(100.0%)	170(100.0%)	340(100.0%)	
Blood loss				
Mean	249.24ml	226.45ml	237.85ml	0.037
SD	51.02ml	14.77ml	39.20ml	

When data was stratified for age, BMI and gestational age we found no significant association of intact perineum with study groups with respect to age and gestational age, p-value >0.05. The significant association was found in intact perineum with study groups in cases having BMI < 30, p-value < 0.05. Moreover when data was stratified for age, BMI and gestational age we found significantly lower mean blood loss (ml) in restrictive episiotomy group with respect to each stratum, p-value < 0.05. (Table III)

Table III: Comparison of mean blood loss in both study groups with respect to age, gestational age and BMI.

Variables	Study groups	Blood loss (ml)		p-value
		Mean	SD	
Age (years)				
18-29	Routine (n=84)	256.12±56.50		<0.001
	Restrictive (n=99)	228.28±14.17		
30-40	Routine (n=84)	242.52±44.35		0.001
	Restrictive (n=99)	223.90±15.30		
BMI				
≤ 25 kg/m^2	Routine (n=143)	250.04±50.43		<0.001
	Restrictive (n=136)	227.24±14.62		
>25 *kg/m^2*	Routine (n=27)	244.99±54.87		0.031
	Restrictive (n=34)	223.31±15.14		
Gestational age (weeks)				
37-39	Routine (n=95)	248.63±50.90		<0.001
	Restrictive (n=108)	227.74±14.96		
40-42	Routine (n=75)	250.01±51.51		0.032
	Restrictive (n=62)	224.20±14.26		

Discussion

Episiotomy involves making a surgical incision in the perineum to widen the vaginal opening during childbirth, often to facilitate delivery and prevent severe tears. Despite being one of the most common procedures performed during labor, there remains

considerable debate regarding its necessity and benefits. The ongoing lack of agreement about whether episiotomy should be performed routinely or only in specific cases is evident from the significant variability in episiotomy rates across different studies. For instance, Low and colleagues found that episiotomy rates varied from 13.3% to 84.6%, with an average of 51%, in a prospectively enrolled population of spontaneous term births without complications.[10] In the present study, the overall mean age of participants was 28.92 ± 6.29 years, with a mean age of 29.41 ± 6.52 years in the routine episiotomy group and 28.44 ± 6.03 years in the restrictive group. Comparatively, a different study reported a mean age of 26.97 ± 1.84 years (ranging from 24 to 30 years)[11] among a sample of 100 women, indicating that the mean age in our study was slightly higher.

In the current study, restrictive group showed intact perineum in 10 cases (5.9%) compared to only 3 cases (1.8%) in the routine group. The frequency of an intact perineum was significantly higher in the restrictive group compared to the routine group (p 0.048). In aligns to this study Sangkomkamhang U et al[12] reported that a restrictive approach to episiotomy led to a higher number of intact perineums among the primiparous women. According to another study by Shahraki AD et al[13] observed that a restrictive episiotomy approach lowers maternal complications.

Consequently, refraining from routine episiotomies in non-essential situations can lead to a higher rate of intact or minimally injured perineums, reduce postpartum pain, and does not negatively impact maternal or neonatal health outcomes.[13] In aligns to our findings Venus D et al[5] reported that the in the restrictive episiotomy group, 15.55% of cases experienced perineal tears, while 26% of cases in the routine episiotomy group had an extension of the episiotomy, though this difference was not statistically significant, suturing was required far less frequently in the restrictive group (20%) and 64.45% of patients in the restrictive group delivered with an intact perineum. Furthermore, they observed that the routine group also had a higher complication rate, with reduced perineal laceration and pain severity observed in the restrictive group.[5] Several other studies also supported the use of selective episiotomies over routine episiotomies during vaginal births, finding it to be linked with fewer negative outcomes for mothers.[14-16]

In this study, the average blood loss in the routine episiotomy group was 249.24 ± 51.02 ml, whereas the restrictive episiotomy group experienced significantly lower blood loss at 226.45 ± 14.77 ml (p = 0.001). This finding aligns with results from Patil S et al[17], who also observed reduced postpartum hemorrhage in the restrictive episiotomy group compared to the routine group, suggesting that a more selective approach to episiotomy may mitigate blood loss. Similarly, Atef A et al[18] reported that selective episiotomy is more effective than routine episiotomy in lowering intrapartum blood loss. Conversely, another study found that restrictive episiotomy resulted in greater blood loss compared to routine episiotomy (P<0.01), though there were no significant differences in labor duration, anal sphincter injury rates, or neonatal asphyxia between the groups. Supporting the findings of this study, Vachhani A et al[1] demonstrated significantly higher blood loss in the routine episiotomy group (341.89 ± 49.33 ml) than in the restrictive group (301.01 ± 52.41 ml, p = 0.000002).

Additionally, Jiang H et al[14] suggested that selective episiotomy could reduce blood loss by an average of 27 ml compared to routine episiotomy, although the evidence is low-certainty, with a confidence interval ranging from 75 ml less to 20 ml more. These findings collectively reinforce the benefits of a restrictive episiotomy approach in reducing blood loss during delivery, though variability among studies indicates that individual patient factors and clinical judgment remain essential. However, the current study has several limitations such as a small sample size, differences in clinical practices, skill levels of healthcare providers, and patient demographics, which may contribute to different outcomes across studies, making it difficult to draw definitive conclusions about episiotomy protocols. Furthermore, there is a dearth of long-term data on the impact of restrictive vs regular episiotomy, particularly in terms of maternal outcomes such as pelvic floor function and sexual health. Additionally, while blood loss and perineal integrity were assessed, other critical aspects such as postpartum pain, healing time, and psychological effects were not considered in this study. However, future research should include a larger more varied population with longer follow-up periods in order to better comprehend the long-term impacts of episiotomy procedures.

Conclusion

Study concludes that the restrictive episiotomy group demonstrated significantly better outcomes compared to the routine episiotomy group. Women in the restrictive group experienced less blood loss during delivery and had a higher likelihood of maintaining an intact perineum. These results suggest that a more selective approach to episiotomy, only performed when clinically indicated, may lead to improved maternal outcomes in comparison to routinely performing the procedure.

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