Outcome in Routine versus Restrictive Episiotomy in Primi Gravida Women at Chittagong Medical College Hospital

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Abstract

Background: Episiotomy is a commonly performed surgical procedure, particularly in nulliparous women during 2nd stage of labour. Some complications, such as infection, perineal pain, trauma, etc., led to some limitations against routine episiotomy. Considering the adverse effects of routine episiotomy, restrictive episiotomy is under trial for better outcomes. This study aimed to compare the fetometarnal outcomes in routine versus restrictive episiotomy in primigravid women at Chittagong Medical College Hospital.

Materials and methods: One hundred primigravid women with term pregnancy were included in this quasi-experimental study. They were randomly allocated into two equal groups, A and B. In Group A, delivery was conducted with routine episiotomy. In Group B, delivery was performed with restrictive episiotomy. Maternal and fetal outcomes were observed and compared between the two groups.

Results: In Group A, 24% had experienced extension of episiotomy wound; in Group B, 42% had 1st-degree perineal tear, and 08% had 2nd-degree perineal tear. A total of 07 (14%) patients needed episiotomy, 4 women for imminent perineal tear and 3 for maternal exhaustion. Wound infection was 2%, only in the routine episiotomy group. NICU admission was required for 18% and 12% of the neonates in Groups A and B, respectively.

Conclusion: As immediate outcomes following routine use of episiotomy are the same as those of restrictive use, a policy of routine episiotomy should be abandoned in primigravidae; instead, a restricted episiotomy approach should be followed.

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Introduction

Episiotomy is a surgical technique to enlarge the posterior aspect of the vagina, which was first mentioned by Sir Fielding Ould, a Dublin midwife in, 1742. Michaelis first recommended mid-line incisions in the perineum in 1877, and in 1847, Dubois first described the mediolateral episiotomy.[1,2] It is the most common surgical procedure experienced by women. However, considerable variations in percentages of the use of routine episiotomy exist between countries, within countries and even within the same professional provider group. The prevalence of episiotomy rate varies between 9.7% (The lowest) (Sweden) and 100% (The highest) (Taiwan).[1] In developing countries, including Asian ones like India, the prevalence of episiotomy was 90%—minimal data was found on the episiotomy rate in Bangladesh.[2]

Though episiotomy facilitates delivery, it is equivalent to a second-degree perineal tear.[5] An episiotomy may cause postpartum early perineal complications and higher pain scores.[6] There is an increased incidence of sexual dysfunction and stress incontinence in women undergoing episiotomy.[7] The amount of blood loss is more in the routine episiotomy group.[8] For these reasons, developed countries like Australia, Canada and Sweden made efforts to use episiotomy only for selected indications.[9,10] However, in developing countries, the episiotomy rates continue to be high. A survey among eleven developing countries, including India, across the Global Network for Women's and Children's Health Research sites (2003) reported over 90% episiotomy rates among nulliparous. However, the overall rate was about 40 per cent.[4]

The 2014 Practice Bulletin from the American College of Obstetricians and Gynecologists and the National Institute of Health and Clinical Excellence (NICE) guidelines did not recommend

the routine use of episiotomy. Episiotomy is indicated in some conditions –instrumental deliveries, breech presentation, imminent perineal tears, shoulder dystocia, short rigid perineum, and maternal and fetal compromises.[11] Perineal pain, tears, wound dehiscence and wound infections are less frequent in restricted episiotomy than in routine episiotomy.[11] Restrictive episiotomy policy appears to have several benefits compared to routine episiotomy policies - less posterior perineal trauma, less or no suturing and fewer complications. Restricted use of episiotomy resulted in a considerable reduction in maternal morbidity due to perineal lacerations.[12-14] The study was designed to compare the maternal and neonatal outcomes in routine versus restrictive episiotomy in primigravida women at a tertiary hospital in Bangladesh.

Materials and methods

A quasi-experimental study was conducted in the Department of Obstetrics and Gynecology at Chittagong Medical College Hospital (CMCH) from November 2019 to May 2020. The Ethical Committee of Chattogram Medical College approved the study. The aims, objectives and detailed procedure of the study were informed, and written consent was taken while women went to the active phase of labour. She was encouraged to participate and allowed to withdraw from the study whenever she liked, even after participation. One hundred primigravida women having singleton term pregnancy (Gestational age 37 to 42 completed weeks) with vertex presentation who allowed vaginal delivery were included in this study. After the sample recruitment, patients were allocated into two groups by lottery method - Group-A and B.

In Group A, patients were prepared, and the mother and fetus were monitored closely. After explaining the procedure, the right mediolateral episiotomy was given after infiltrating the perineum with local anaesthesia (2% lignocaine). After delivery, the episiotomy wound was repaired in layers with chromic catgut No. 0 round body needle 76 cm suture. In Group B, patients were prepared, and the mother and fetus were monitored closely. The patient was encouraged to deliver in intact perineum despite knowing complications. In this group, episiotomy was given only when severe perineal trauma was imminent, maternal exhaustion/poor maternal bearing down effect. If any tear occurs, it is repaired in layers with the same suture materials. If any woman needed a cesarean section in the labour process, she was considered a dropout case from the study. Maternal events including occurrence of spontaneous vaginal or perineal tears, extension of episiotomy wound, hospital stay, wound complications and neonatal events including APGAR score of the neonate at birth, birth weight and NICU admission were noted.The patients were discharged depending on the condition of the mother and neonate. After that, the patient was advised to come for a follow-up visit on the 7th postnatal day and she was examined. If any complication occurs, further management is suggested.

Data were analyzed by using SPSS windows version 23.0. Both descriptive (Count, percentage, range, mean and standard deviation) and inferential statistics (Chi-square test and independent sample t test) were used in data analysis. $p < 0.05$ was considered as statistical significance. This research protocol was approved by ERC of Chittagong Medical College.

Results

Both groups were comparable in terms of their age distribution and residential location (Table I).

Table I Demographic characteristics of the patients (n=100)

Characteristics		Group-A (n=50)	Group-B(n=50)	p value
Age (Years)	<21	23 (46%)	27 (54%)	0.422*
	21-25	20 (40%)	12 (24%)	
	26-30	07 (14%)	10 (20%)	
	31-35	0 (0%)	01 (02%)	
	Mean ± SD	21.64 ± 2.968	21.96 ± 4.015	
Residence	Rural	36 (72%)	28 (56%)	0.096*
	Urban	14 (28%)	22 (44%)	

Data were expressed as frequency (%) if not mentioned otherwise. *Chi-square test.

In Group A, 24% had experienced extension of episiotomy wound. In Group B, 42% had 1st-degree perineal tear, and 08% had 2nd-degree perineal tear. A total of 07(14%) patients needed episiotomy, 4 women for imminent perineal tear and 3 for maternal exhaustion (Table II).

Table II Perineal tear and need of episiotomy in Group B (n=50)

Characteristics	Frequency	Percentage
1st degree perineal tear	21	42%
2nd degree perineal tear	04	08%
Episiotomy needed	07	14%
Imminent perineal tear (n=7)	04	57.1%
Maternal exhaustion (n=7)	03	42.9%

Wound infection was 2%, only in the routine episiotomy group. Regarding fetal outcome, In Group A, NICU admission was 18%. In Group B, it was 12% (Table III).

Table III Comparison of maternal and fetal outcome between two groups (n=100)

Outcomes	Group-A (n=50)	Group-B (n=50)	p value
Maternal Wound infection	2 (4%)	0 (0%)	0.153*
Hospital stay, hours	23.98 (±3.946)	24.18 (±6.143)	0.847†
APGAR score	6.98 (±0.515)	6.94 (±0.550)	0.708†
Birth weight (kg)	2.95 (±0.318)	2.77 (±0.425)	0.021†
NICU admission	9 (18%)	6 (12%)	0.401*

Data were expressed as either frequency (%) or mean (±Standard deviation). *Chi-square test; †Independent sample t test.

Discussion

According to guidelines the decision to perform an episiotomy should be based on clinical considerations and there is no specific situation where episiotomy id essential.[15] The current study compared complications following routine and restrictive episiotomy among primigravida women. Out of 50 women, 07 (14%) patients needed episiotomy, 4 women for imminent perineal tear and 3 for maternal exhaustion in the restricted episiotomy group, which was minimal and complications were less.

Regarding the extension of episiotomy wound in this study, among 50 routine episiotomy cases, 24% had experienced an extension of episiotomy wound, consistent with the survey carried out by Venus et al. where 26% of patients had an extension of episiotomy in the routine episiotomy group.[13] Caroli et al. found that restrictive episiotomy resulted in less severe perineal trauma compared to midline routine episiotomy.[1]

In the present study, among 50 restricted episiotomy cases (Group-B), 42% had 1st-degree perineal tear, and 08% had 2nd-degree perineal tear. No patients had 3rd and 4th degrees of perineal tear. Total 07(14%) patients needed episiotomy. Among them, imminent perineal tear was among 04 patients, and maternal exhaustion was among 03 patients. Apurva et al. showed that in the restrictive episiotomy group, 75% of patients had first-degree tears, and 22.5% had second-degree tears, which was higher than the current study.[11] Another study conducted by Venus et al. 07 (15.5%) had perineal tears among 45 mothers of the restrictive episiotomy group.[13]

In this study, the rate of episiotomy had reduced to 14% in a restrictive group compared with a routine group where 100% episiotomy was observed. It is a little higher than Venus et al., which was 10%.[13] Regarding fetal outcomes, the mean (±SD) APGAR score in the routine episiotomy group was 6.98 (±0.515). The mean (±SD) APGAR score in the restricted episiotomy group was 6.94 (±0.550). APGAR scores were similar between two groups, which agreed with the study of Venus et al. and Shahkari et al. study.[13,16] So, the role of episiotomy seems negligible to expertise delivery to minimize neonatal asphyxia.In the present study, NICU admission rate was similar in both groups. which agreed with the earlier studies.[13,14]

Concerning birth weight, we observed a significantly higher mean weight in routine episiotomy group than the restricted episiotomy group, which disagreed with previous studies. However, the observed mean difference in birth weight was minimal and might be due to small sample size.

Concerning maternal outcome in this study, wound infection was 2%, only in the routine episiotomy group. There was no other complication found in any group. Similarly, their study report by Amorim et al. found that no patients had vulval hematoma or wound infection.[17] Compared to the routine episiotomy group, Venus et al. 6% had more complications than the restrictive episiotomy group 2.22%.13 Restrictive episiotomy policy implements less perineal trauma and fewer healing complications.

Concerning the duration of hospital stay, in the routine episiotomy group, 23.98 (±3.946) hours and in the restricted episiotomy group, 24.18 (±6.143) hours. A study by Venus et al. reported that hospital stays of more than 24 hours were reported for 10 patients due to their baby's admission and complications.[13]

Limitation

It was a single-centred study for a short time. No blinding was done. The sample size was small to give a pen picture of the actual scenario of the country.

Conclusion

In conclusion, present study findings demonstrated that immediate outcomes following routine use of episiotomy are almost the same as those of restrictive use.

Recommendations

Due to low maternal complications of restrictive episiotomy, routine episiotomy should be avoided in unnecessary conditions.

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Contribution of authors

NJB-Conception, design, data collection, manuscript writing & final approval.

ANH-Interpretation of data, data analysis, drafting & final approval.

BA-Data collection, manuscript writing & final approval.

HM-Data collection, manuscript writing & final approval.

NS-Data collection, manuscript writing & final approval.

SA-Interpretation of data, critical revision & final approval.

Disclosure

All the authors declared no conflict of interest.

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