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Original Research Article

Routine versus selective use of episiotomy in primigravida: a prospective non-randomized case-control study

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ABSTRACT

Background: Episiotomy is a surgically planned incision on the perineum and the posterior vaginal wall during second stage of labour. It is an inflicted second-degree perineal tear. Objective of this study was to determine the possible benefits and risks of the use of selective episiotomy versus routine episiotomy during delivery in primigravida.

Methods: This is a prospective non-randomized case-control study designed to analyze and compare the maternal outcomes following routine versus selective use of episiotomy in primigravida. In control group, 122 patients were recruited and mediolateral episiotomy was given in all patients; while in study group, 61 patients were recruited, in whom episiotomy was given selectively.

Results: In study group 61 patients were recruited, out of which episiotomy can be avoided in 23 (37.7%) of cases. There was no 3rd or 4th degree perineal tear found in any group. Perineal pain score on 3rd day postpartum was less in study group, as compared to control group on bed rest, sitting, walking and defecation.

Conclusions: Selective use of episiotomy can improve maternal outcome by reducing perineal lacerations and those having intact perineum can have the best outcome when episiotomy is given selectively.

Keywords: Episiotomy, Perineal pain, Perineal tear, Routine, Selective use

INTRODUCTION

Episiotomy is a surgically planned incision on the perineum and the posterior vaginal wall during 2nd stage of labour. It is an inflicted second-degree perineal tear.¹ It is one of the most commonly performed surgical procedures in the world, particularly for primigravida women. Two types of episiotomy have been described: midline (median) and mediolateral. Generally, midline episiotomies are more commonly performed in the United States, whereas mediolateral episiotomies are more common in other parts of the world.² Though there has been no strong scientific evidence of its effectiveness, it is used extensively specifically in primipara with the

belief that it's easier to suture clean cut episiotomy than vaginal lacerations.

The other reasons commonly used to justify routine episiotomy are: (1) It facilitates delivery resulting in less trauma to baby and improved Apgar and fewer ICU admissions. (2) Surgical healing is better and fewer 3rd and 4th degree perineal tears resulting in less pain, bleeding, infection, dyspareunia as short term benefits and less dyspareunia, fecal incontinence, urinary incontinence and lesser chances of rectal and urinary fistula and prolapse. On the other hand, hypothesized adverse effects of routine use of episiotomy include: (1) 3rd and 4th degree perineal tear by unavoidable extension

of the incision which can secondarily lead to anal incontinence, rectovaginal fistula. (2) unsatisfactory anatomic results such as skin tags, asymmetry or excessive narrowing of the introitus. (3) increased blood loss and hematoma formation (4) pain and oedema in the episiotomy region (5) infection and dehiscence (6) dyspareunia.³ Other important issues to bear in mind are costs and additional resources that may be required to sustain a policy of routine use of episiotomy.

The American College of Obstetricians and Gynaecologists has concluded: "Data show no immediate or long-term maternal benefit of routine episiotomy in perineal laceration severity, pelvic floor dysfunction, or pelvic organ prolapse compared with restrictive use of episiotomy. Moreover, episiotomy has been associated with increased risk of postpartum anal incontinence. Current data and clinical opinion suggest that there are insufficient objective evidence-based criteria to recommend episiotomy, especially routine use of episiotomy, and that clinical judgment remains the best guide for use of this procedure."⁴

METHODS

This is non-randomized prospective case-control study carried out in the department of obstetrics and gynaecology, Shree Sayajirao general hospital, Vadodara from February 2018 to September 2018, designed to analyze and compare the maternal outcomes following routine versus selective use of mediolateral episiotomy in primigravida. In control group, 122 patients were recruited and mediolateral episiotomy was given in all patients; while in study group, 61 patients were recruited, in whom episiotomy was given selectively.

Written and informed consents from all the participants of the study were obtained.

Inclusion criteria

- Primigravida
- Irrespective of their age
- 36 to 42 weeks pregnancy
- With a single live fetus
- In cephalic presentation
- In whom delivery was conducted by vaginal route.

Exclusion criteria

- Malpresentation
- Malposition
- Instrumental delivery F et al., macrosomia (expected fetal weight > 3.5 kg) and
- High risk pregnancy including hypertensive disease of pregnancy, mother having systemic disease, multiple pregnancies, prolonged rupture of membrane.

T controls were selected from other unit of obstetrics and gynaecology department, including all the patients who have been given mediolateral episiotomy on routine basis with or without specific indication. Cases were selected from our unit in whom the episiotomy was given selectively, based on clinical judgment, as in whom there was fetal distress, the perineum was found not able to accommodate delivery without episiotomy (Rigid perineum), imminent perineal tear and prolonged second stage of labour.

Statistical analysis

Statistical analysis was done by Medcalc statistical software 17.2. Continuous variables were presented as mean±SD and categorical variables were presented by Absolute number and percentage. p value was calculated by two-tailed t-test for continuous variables and by fisher exact test or chi square test for categorical variables. For assessment, p value less than 0.05 was considered significant.

RESULTS

In present study, both cases and controls were compared for occupation, gestational age, oxytocin use (Table 1) and maternal age, perineal length, duration of second stage of labour, birth weight (Table 2). Duration of second stage of labour and birth weight was found to be higher in study group.

In control group 122 patients were recruited and episiotomy was given in all patients; while in study group 61 patients were recruited, out of which episiotomy was given in 38(62.29%) patients and was avoided in 23 (37.7%) cases. In study group, 14 patients (22.95 %) had an intact perineum. Combined first degree perineal tear and intact perineum was 36.07% in study group compared to 0% in control group, means 36.07% patients had better outcome in terms of perineal tear in study group, as episiotomy is considered as second-degree perineal tear (Table 3).

No another perineal tear found in same patient in both the groups in whom episiotomy is given. Para urethral tear requiring suturing, required in one patient in study group compared to no tear in control group. There was no 3rd or 4th degree perineal tear found in any group.

Perineal pain score on 3rd day postpartum was compared by visual analogue scale (VAS) between study group and control group on bed rest, sitting, walking and defecation (Table 4). The patients having intact perineum had best outcome when episiotomy was given selectively. Those having spontaneous primary perineal tear had better outcome as compared to episiotomy in terms of perineal pain.

Table 1: Comparison of occupation, gestational age and oxytocin use between study and control group.

	Study group		Control group		p value (fisher exact test)
	No. of cases	%	No. of controls	%	
Total	61	100	122	100	
Occupation					
Heavy work (farmer/laborer)	16	26.23%	43	35.25%	0.21
Moderate work (housewife)	45	73.77%	79	64.75%	
Gestational age					
36-37 weeks	12	19.67%	27	22.69%	0.83
38-39 weeks	39	63.93%	72	59.02%	
40 weeks and above	10	16.39%	23	18.85%	
Oxytocin					
Used	41	67.21%	81	66.39%	0.93
Not used	20	32.79%	41	33.61%	

Table 2: Comparison of maternal age, perineal length, duration of second stage of labour and birth weight between study group and control group.

Parameter	Group	N	Mean	Standard deviation	p value
Maternal age (years)	Study	61	22.66	2.99	0.11
	Control	122	23.37	2.76	
Perineal length (cm)	Study	61	3.38	0.38	0.08
	Control	122	3.29	0.30	
Duration of 2 nd stage of labour (min)	Study	61	36.3	9.30	0.02
	Control	122	33.36	7.05	
Birth weight (gm)	Study	61	2736.3	259.9	0.03
	Control	122	2624.8	350.5	

Table 3: Distribution by patients having intact perineum or first-degree perineal tear versus episiotomy or second-degree perineal tear.

	Cases	Cases (%)	Controls	Controls (%)
Intact perineum + 1 st degree tear	14+8 = 22	22.95+13.12 = 36.07%	0+0	0.00%
Episiotomy + 2 nd degree tear	38+1 = 39	62.29+01.63 = 63.93%	122+0	100.00%
Total	61	100.00%	122	100.00%

Table 4: Perineal pain score on 3rd postpartum day by 100 mm VAS on bed rest and sitting.

Perineal pain	Moderate to severe pain	
	Cases (%) (n = 61)	Controls (%) (n = 122)
Bed rest	4.92 (3)	7.38 (9)
Sitting	39.34 (24)	51.64 (63)
Walking	54.10 (33)	83.61 (102)
Defecation	54.10 (33)	83.61 (102)

*The visual analog scale (VAS) is one of the most commonly used measures of pain intensity in pain research. 100-mm VAS ratings of 0 to 4 mm considered no pain; 5 to 44 mm, mild pain; 45 to 74 mm, moderate pain; and 75 to 100 mm, severe pain.

In this study, no correlation was found between episiotomy requirement and maternal age, perineal length, gestational age from 36 to 40 weeks, birth weight

(up to < 3500 gm) in selective episiotomy group in this study (Table 5).

Table 5: Distribution of patients having episiotomy or 2nd degree perineal tear by birth weight in case group.

Birth weight	Total	Episiotomy+2 nd degree tear (%)
1500-1999 gm	0	0
2000-2499 gm	10	6 (60%)
2500-2999 gm	36	23 (63.9%)
3000-3499 gm	15	10 (66.67%)
Total	61	39

p value = 0.95.

DISCUSSION

In the prospective observational study done by Saxena Rajivkumar et al, episiotomy was given in 96% of control

group and 40% of case group in primipara, 13% have second degree tear and 2% have 3rd or 4th degree perineal tear. This translated into 41% reduction in the number of perineal lacerations in primipara, which is comparable to our study where reduction in the major perineal lacerations (2nd degree or more) by 36.07%.⁵

In the study done by Ali SS et al, in primigravida, episiotomy was made in 32% of deliveries in the selected and 100% in the routine group. Severe perineal trauma was not seen in either group. Anterior vaginal/paraurethral trauma was more common in the selected group. 48% women in selected group required surgical repair of posterior perineal trauma while 100% in routine group.⁶

In study done by Eltorkey MM et al, episiotomy rate in elective group was 83% (n = 100) and in selective group is 53% but with higher (8%) second degree perineal lacerations in primigravida women.⁷ In the study done by Harrison RF et al, 92 patients allocated not to undergo episiotomy, seven (8%) had one done for medical reasons compared with 507 (89%) in the patients allocated to undergo episiotomy. First degree tears occurred in 23 (25%) and second-degree tears in 43 (47%). Nineteen (21%), however, retained an intact perineum compared with only 35 (6%) of the women who had delivered in other group, which is comparable to our study where intact perineum was found in 22.95% (n = 14) patients.⁸ In the study done on nulliparous women by Juste-Pina A et al, episiotomy was performed in 83.7% in the routine group and in 59% in selective group. The incidence of subsequent perineal tear was higher in selective episiotomy group (30%) than in routine episiotomy group.⁹

According to Cochrane database 2017, for pain, it's not clear that if selective episiotomy compared with routine results in fewer women with moderate or severe perineal pain (measured on a visual analogue scale) at three days postpartum (RR 0.71, 95% CI 0.48 to 1.05, one trial, 165 participants, very low-certainty evidence).³

While in our study, perineal pain score by 100 mm VAS on 3rd day postpartum is significantly less in selective episiotomy group.

CONCLUSION

Selective use of episiotomy with good clinical judgment in primigravida can improve maternal outcome by reducing perineal lacerations and those having intact

perineum can have the best outcome when episiotomy is given selectively.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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