Original Article

Maternal and Foetal Outcome in Routine versus Selective Use of Episiotomy

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Abstract

Introduction: *An episiotomy is a surgical incision of the perineum made to increase the diameter of the vulval outlet during child birth.*

Aim of the study: *To evaluate the maternal and foetal outcome in routine versus selective use of episiotomy.*

Material & Methods: *This prospective interventional study was conducted at the Department of Obstetrics and Gynaecology, Sir Salimullah Medical College and Mitford Hospital during January 08 to June 08. A total of 160 patients were included for the study. The patient of group I were given episiotomy with all aseptic precaution after infiltration of 10 ml of 1% solution of lignocaine. For group II patients episiotomy was restricted and w. only given for specific indications. Statistical analysis were performed using computer- based software, statistical package for social science (SPSS).*

Results: *In the study, 65(40.6%) cases received episiotomy, 86(53.8%) not received episiotomy and only 9(5.6%) needed episiotomy. Maximum number was found in the age group of 20-25 years in both groups. Most of the study patients were primi. Regarding the duration of second stage of labour of maximum number belongs to 30 - 90 minutes in all groups. In group I there was 2° tear in 61(93.8%), 3rd degree tear 4(6.2%) and none had 1° perineal tear, whereas in group II it was observed that 45(52.3%) had no tear. In group I, 24(36.9%) patients complained difficulty in defecation and 30(46.2%) felt difficulty in sitting. But in patients needing episiotomy in group II 4(44.4%). There was no still birth found in any group. The mean± (SD) head circumference of the baby was 36.4±6.05 cm and 34.7±1.26 cm in group I and group II respectively.*

Conclusion: *In a poor country like ours, where pregnancy rate is very high, reducing episiotomy rate can eliminate morbidity associated with episiotomy and can ensure early resumption of women to their normal life.*

Keywords: *Episiotomy, Maternal, Foetal, Outcome, Perineum.*

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Introduction

An episiotomy is a surgical incision of the perineum made to increase the diameter of the vulval outlet during child birth. Episiotomy, the commonest intervention during child birth was first described in 1741 for complicated vaginal deliveries for prevention of perineal tear[1]. But in many countries it soon became a routine policy in clinical practice without scientific evidence of its benefits. Its use was justified by the prevention of severe perineal tears, better future sexual function and a reduction of urine and fecal incontinence[2]. During the last three decades the need for episiotomy has questioned by child birth activists, women themselves, midwives and obstetricians. There is high frequency of pain,

discomfort, dyspareunia and failure to resume pain free intercourse experienced by women who was sustained an episiotomy[3]. Current scientific evidence shows that routine episiotomy is not justified, it has no benefit for mother and infant, increase the need for perineal suturing and thereby may cause complications in healing process at seven days post-partum, produce unnecessary pain and discomfort and has potentially harmful long term effects[4]. Many study concluded that episiotomies prevent anterior perineal lacerations (which carry minimal morbidity) but fail to accomplish any of the other maternal or fetal benefits traditionally ascribed, including prevention of perineal damage and its sequelae, prevention of pelvic floor relaxation and its sequelae and protection of new born from either intracranial haemorrhage or intrapartum asphyxia. In the process of affording this one small advantage, the incision substantially increases maternal blood loss, the average depth of posterior injury, the risk of anal sphincter damage, the risk of improper perineal wound healing and the amount of pain in the first several postpartum days[5]. Thacker and Banta[6] reported that episiotomies were performed on 62.5% of women having vaginal deliveries in the United States in 1979, with 50% to 90% of primigravid women having episiotomy at the time these authors' extensive review of episiotomy literature was published. More recently, relatively small studies in the United States have reported rates of 63%[7] and 52%[8] on obsteric services in teaching hospitals and 38% in an alternative birth center located within a teaching hospital. But unfortunately in our country there has been very little study on episiotomy. There appears to be only a limited awareness, amongst most professional, of the extent of post-partum morbidity experienced by women following episiotomy[9]. The morbidity is not considered to be life threatening, however it does affect a large proportion of women in our country and indeed throughout the World. In fact millions of women give birth each year in our country, many will sustain episiotomy and repair. The maternal morbidity associated with episiotomy repair can have a major impact on woman's general health causing her much discomfort and distress[10]. The main purpose of this study was to evaluate the maternal and foetal outcome in routine versus selective use of episiotomy.

Objectives

- **General objective:**
  - To evaluate the maternal and foetal outcome in routine versus selective use of episiotomy.
- **Specific Objectives:**
  - To find out the number of episiotomy actually needed.
  - To compare the immediate complications in both non- episiotomy and episiotomy group.
  - To evaluate the relation between episiotomy and foetal biometry.
  - To analyze the foetal wellbeing of both groups being delivered with episiotomy and without episiotomy.

Methodology and Materials

This prospective interventional study was conducted at the Department of Obstetrics and Gynaecology, Sir Salimullah Medical College and Mitford Hospital during January 08 to June 08. A total of 160 patients were included for the study according to following inclusion and exclusion criteria. These patients were divided in Group I (n=65) all of whom were delivered with episiotomy, Group II (n=95) women who were intended to be delivered by restricting episiotomy but 9 of these patients needed episiotomy due to absolute foetal and maternal indications and so ultimately 86 patients were delivered without episiotomy. First stage of lab was managed as per protocol and all deliveries were done in dorsal position. The patient of group I were given episiotomy with all aseptic precaution after infiltration of 10 ml of 1% solution of lignocaine. For group II patients episiotomy was restricted and w. only given for specific indications. Blood loss during episiotomy was managed actively. All the patients were followed up for 24 hours after delivery. Statistical analysis were performed using computer- based software, statistical package for social science (SPSS).

- **Inclusion Criteria**
  - Term pregnancy.
  - Vertex presentation.
  - Primi and multi gravida
- **Exclusion Criteria**
  - Any type of malpresentation.
  - Complicated pregnancy- pregnancy associated with PET, Eclampsia, Gestational diabetes etc.
  - Intrauterine death.

Results

A total of 160 cases were included in the study, out of which 65(40.6%) cases received episiotomy, 86(53.8%) not received episiotomy and only 9(5.6%) needed episiotomy. Maximum number was found in the age group of 20-25 years in both groups whereas maximum number was found in the age group of 31-34 years in episiotomy needed group. The mean± (SD) age was 21.6±3.47 years in episiotomy received group, 22.1±3.51 years in no episiotomy group and 30.4±4.24 years in episiotomy needed group (Table I). Most of the study patients were primi (Table II). The mean height were similar in all groups (Table III). Regarding the duration of second stage of labour of maximum number belongs to 30 - 90 minutes in all groups. The mean± (SD) duration of second stage of labour was 60.0±21.1 minutes in episiotomy done group, 42.6±14.5 minutes in no episiotomy group and 56.4±18.3 minutes in episiotomy needed group (Table IV). In group I there was 2° tear in 61(93.8%), 3rd degree tear 4(6.2%) and none had 1° perineal tear, whereas in group II it was observed that 45(52.3%) had no tear, 35(40.7%) had 1° tear, 9(10.5%) had 2° tear and none had 3° tear. In group II who required episiotomy 8(88.9%) had 2° tear, 1(11.1%) had 3° tear and none had 1° perinatal tear (Table V). In group I, 8(12.3%) patients had para urethral tear, 2(3.1%) patients had labial trauma and anterior vaginal trauma occurred in cases of 1(1.5%) patients. In group II among 86 patients who did not need episiotomy 9(10.5%) patients had para urethral tear, 2(2.3%) patients had labial trauma and anterior vaginal trauma occurred in cases of 1(1.2%) patient. Among 9 patients who required episiotomy in group II 1(11.1%) patients had para urethral tear and none had labial trauma and anterior vaginal trauma occurred in cases of 1(11.1%) patient (Table VI). In group I, 24(36.9%) patients complained difficulty in defecation and 30(46.2%) felt difficulty in sitting. Whereas no complication was found in group II. But in patients needing episiotomy in group II 4(44.4%) complained about difficulty in defecation and 5(55.5%) complained about difficulty in sitting (Table VII). There was no still birth found in any group. Spontaneous cry was found 53(81.5%), cried after resuscitation 4(12.1%) and 1(1.5%) baby needed admission in group I. In group II among 86 patients who did not need episiotomy 77(89.5%) babies cries spontaneously, 8(9.3%) cried after resuscitation and none was needed admission. In babies of mothers who needed episiotomy in group II 8(89.8%) babies cried spontaneously, 1(9.4%) cried after resuscitation and 1(11.1%) baby needed admission (Table VIII). The mean± (SD) head circumference of the baby was 36.4±6.05 cm and 34.7±1.26 cm in group I and group II respectively. In group II who needed episiotomy the mean± (SD) head circumference of the baby was 37.2±2.53 cm (Table IX). Maximum baby weight was belongs to 2.7-3.0 kg in group I but in group II majority of the baby weight was belongs to 2.5 – 2.6 kg and in babies of mothers who needed episiotomy majority of the baby weight was belongs to 3.1-3.2 kg. The mean± (SD) weight was 2.8±0.37 kg and 2.9±0.28 kg in group I and group II respectively. In babies of mothers who needed episiotomy the mean± (SD) weight was 3.1±0.24 kg (Table X).

Table I: Age distribution of the patients (N=160)

Age in year	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
20-25	35	53.8	39	45.3	1	11.1
26-30	24	36.9	39	45.3	2	22.2
31-34	6	9.2	6	7.0	5	55.6
>34	0	0.0	2	2.3	1	11.1
Mean±SD	21.6±3.47		22.1±3.51		30.4±4.24	

Table II: Distribution of the obstetrical history of the patients (N=160)

Obstetrical History	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
Primi	65	100	57	66.3	8	88.9
Multi gravida	0	0	29	33.7	1	11.1

Table III: Distribution of height of the patients (N=160)

Height of the mother (cm)	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
147.32-152.40 cm	6	9.2	4	4.7	1	11.1
152.40-157.48 cm	47	72.3	60	69.8	6	66.7
>157.48 cm	12	18.5	22	25.6	2	22.2
Mean±SD	151.6±4.1		152.9±7.3		153.2±6.7	

Table IV: Distribution of the duration of second stage of labour (N=160)

Duration of second stage of labour (min)	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
<30 min	6	9.2	27	31.4	3	33.3
30-90 min	53	81.5	59	68.6	6	66.7
>90 min	6	9.2	0	0	0	0
Mean± SD	60.0±21.1		42.6±14.5		56.4±18.3	

Table V: Distribution of the perineal tear of the patients (N=160)

Perineal tear	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
No tear	0	0	45	52.3	-	-
1° tear	0	0	35	40.7	-	-
2° tear	61	93.8	9	10.5	8	88.9
3° tear	4	6.2	0	0	1	11.1

Table VI: Perineal trauma during labour (N=160)

Perineal trauma during labour (N=160)	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
Para urethral tear	8	12.3	9	10.5	1	11.1
Labial trauma	2	3.1	2	2.3	0	0.0
Ant. vaginal trauma	1	1.5	1	1.2	1	11.1

Table VII: Complications within 24 hours of delivery (N=160)

Complications	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
Difficulty in defecation	24	36.9	0	0.0	4	44.4
Difficulty in sitting	30	46.2	0	0.0	5	55.5

Table VIII: Condition of the baby at birth (N=160)

Condition of the baby	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
Alive	65	100.0	86	100.0	9	100.0
Still born	0	0.0	0	0.0	0	0.0
Spontaneous cry	53	81.5	77	89.5	7	77.8
Cried after resuscitation	8	12.3	8	9.3	1	11.1
Needed admission	1	1.5	0	0.0	1	11.1

Table IX: Distribution of the head circumference of the baby (N=160)

Head circumference of the baby	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
<35 cm	30	46.2	35	40.7	1	11.1
>35 cm	35	53.8	51	59.3	8	88.9
Mean±SD	36.4±6.05		34.7±1.26		37.2±2.53	

Table X: Distribution of the weight of the baby (N=160)

Weight of the baby	Group I (N=65)		Group II (N=95)			
	Episiotomy Done (n=65)		No Episiotomy (n=86)		Episiotomy needed (n=9)	
	n	%	n	%	n	%
2.5-2.6 kg	6	9.2	57	66.3	1	11.1
2.7-3.0 kg	35	53.8	16	18.6	2	22.2
3.1-3.2 kg	12	18.5	9	10.5	6	66.7
3.3-3.5 kg	12	18.5	4	4.7	1	11.1
Mean±SD	2.8±0.37		2.9±0.28		3.1±0.24	

Discussion

In this present study 65(40.6%) cases received episiotomy, 86(53.8%) not received episiotomy and 9(53.8%) needed episiotomy. Maximum number was found in the age group of 20-25 years in both groups but in cases of 9 patients who were in group II but needed episiotomy 31-34 years was the maximum number. All pregnant woman was in primi gravida in group I patients, whereas 66.3% in group II and 88.9% who needed episiotomy in group II. The mean (±SD) height was 151.6±4.1 cm in group I, 152.9±7.3 cm in group II and 153.2±6.7 cm those who needed episiotomy in group II, which were almost similar in all groups. Sinorello LB et al[11] reported similar age and height in their study. Regarding the duration of second stage of labour of maximum number belongs to 30 - 90 minutes in all groups in the current study. It was also

found that the mean (±SD) duration of second stage of labour was 60.0±21.1 minutes in group I, 42.6 (SD) ±14.5 minutes in group II and 56.4 (SD) ±18.3 minutes in group II 20 who needed episiotomy. Wilcox LS et al[12] showed episiotomy were 68.0% less among women with a second stage of labour <15 minutes than women with a second stage of labour lasting 16 to 90 minutes. Sinorello LB et al[11] observed that the similar result. In the present study, group as episiotomy was given routinely there was no question no tear/1° tear and 3° tear (extension of the episiotomy incision) occurred in 4(6.2%) patients. In group II among 86 patients who did not need episiotomy 45(52.3%) had no tear, 35(40.7%) had 1° tear, 9(10.5%) had 2° tear and none had 3° tear. Among 9 patients of group II who needed episiotomy only 1(11.1%) patients had 3° tear. Throp JM JR[13] and associates investigated the relationship of episiotomy to third degree perineal tears. Similar rates of tear in nulliparae was documented by Borgatta L et al[14]. In this study it was observed that the perineal trauma during labour was in 8(12.3%) had para urethral

tear, 2(3.1%) had labial trauma and anterior vaginal trauma occurred in case of 1(1.5%) patients. In group II among 86 patients who did not need episiotomy 9(10.5%) had para urethral tear, 2(2.3%) had labial trauma and anterior vaginal trauma occurred in case of 1(1.2%) patients. Among 9 patients who required episiotomy in group II 1(11.1%) patients had para urethral tear, none had labial trauma and anterior vaginal trauma occurred in case of 1(11.1%) patients. Lowenstein et al[15] who found more perineal trauma in the episiotomy group (17.10% vs 5.50%). Regarding the complications within 24 hours of delivery in the present study it was observed that in group I 36.9% patients complained difficulty in defecation whereas none in group II and among 9 patients who required episiotomy in group II 44.4% had complained about difficulty in defecation. Difficulty in sitting were found 45.5% in group I and none in group II respectively. Among 9 patients who required episiotomy in group II 5.55% felt difficulty in sitting. In this current study live birth was found 100.0% in all groups. Spontaneous cry was found 81.5%, cried after resuscitation 12.1% and 1.5% baby needed admission in group I. In group II among 86 patients who did not need episiotomy 89.5% babies' cries spontaneously, 9.3% cried after resuscitation and none was needed admission. In babies of mothers who needed episiotomy in group II 89.8% babies cried spontaneously, 9.4% cried after resuscitation and 11.1% baby needed admission. Borgatta L et al[14] did an extensive study on 694 births and found no significant difference of the condition of the babies whether it was delivered with or without episiotomy. In this study it was observed that the mean± (SD) head circumference of the baby was 36.4±6.05 cm and 34.7±1.26 cm in group I and group II respectively. In group II who needed episiotomy the mean± (SD) head circumference of the baby was 37.2±2.53 cm. Similar findings were found in Signorello 19 LB study[11]. In this study it was found that maximum baby weight was belongs to 2.7 - 3.0 kg in group I but in group II majority of the baby weight was belongs to 2.5 - 2.6 kg and in babies of mothers who needed episiotomy majority of the baby weight was belongs to 3.1 3.2 kg. Signorello LB[11] findings in their study that the average infant birth weight in the episiotomy group was higher than in the tear group, but birth weight in tear group was not significantly higher than in the intact group. Wilcox LS et al[12], Borgatta L et al[14] found in their study an increases in the incidence of lacerations was associated with delivery when infant birth weight was 2 4000 gm.

Limitations Of The Study

The greatest limitation of this study is lack of follow up. So rates of important remote complications of episiotomy and non- episiotomy patients like wound infection, wound dehiscence, dyspareunia, flatus incontinence, faces incontinence and morbid period could not be assessed in this study. Sample size was small. The study was conducted in a single center which doesn't reflect the original scenario of Bangladesh. So here need a large multi scale, multi center countrywide study for genuine outcome.

Conclusion And Recommendations

In a poor country like ours, where pregnancy rate is very high, reducing episiotomy rate can eliminate morbidity associated with episiotomy and can ensure early resumption of women to their normal life. In Bangladesh episiotomy is still being performed routinely in most of the centers but the present study is an attempt showing that episiotomy could be restricted to specific indication without any adverse effects to mothers and babies rather will be beneficial to the mother and ultimately to the society. So, use of episiotomy should be individualized and restricted on specific foetal and maternal indications. Continuing audit could lead to further benefits for childbearing women. This message should be disseminated to out practicing professionals dealing with delivery care to improve the prevailing situation in obstetrics and bring a positive change.

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