Original article

Effectiveness of episiotomy in preventing third and fourth degree perineal tear

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Background: To verify effectiveness of episiotomy in preventing third and fourth degree perineal tear.

Materials and Methods: Retrospective analysis of obstetric variables in 30 women who had sustained third and fourth degree perineal tear, compared with remaining 9632 vaginal deliveries during the same period.

Obstetric department of Tribhuwan University Teaching Hospital, Institute of Medicine, Kathmandu, Nepal. This study identified 9662 vaginal deliveries over 42 months period from April 2003 to October 2006 from obstetric records. Thirty cases who sustained third and fourth degree perineal tear were further analyzed.

Results: Overall rate of third and fourth degree perineal tear was 0.22% (n=21) and 0.09% (n=9), respectively. Episiotomy was given to 49.0% (n=4250) of the total vaginal delivery that occurred during that period. Among women who were given episiotomy 0.42% (n=18) had severe degree perineal tear. Among women who were not given episiotomy 0.22% (n=12) had severe degree perineal tear. Among cases who had severe degree perineal tear 76.7% (n=23) were primi, compared to 23.3% multipara. Women who had sustained third degree perineal tear had slightly smaller babies of average birth weight 3.22 kg compared to 3.31 kg in those who had fourth degree tear. Post dated delivery occurred in 46.7% (n=14) cases. 15.4% (n=4) cases were induced with prostaglandins and 46.2% (n=12) were augmented with syntocinon. Forceps was used in 3.33% (n=1) and vacuum was used in 10.0% (n=3) cases.

Conclusion: Severe degree perineal tear occurred in almost double cases who were epitomized than those who were not. Large birth weight of baby, primiparity, postdated delivery and instrumentation were related to severe degree perineal tear.

Key words: Episiotomy, perineal tear, vaginal deliveries

Introduction

Perineal tear is often met complicating vaginal delivery. Severe degrees of perineal tear associated adversely affects physical and psychological impact to mother starting from perineal pain to more grave consequences like sexual dysfunction and urinary and fecal incontinence thus increasing the maternal morbidity. [1, 2] Various techniques like episiotomy, perineal massage have been tried to prevent such severe degrees of perineal tear inorder to avoid serious complications. [3,4] Episiotomy was introduced in clinical practice in the eighteenth century.[1]Currently benefit of routine episiotomy in preventing perineal tear has been doubtful; meanwhile rates of episiotomy in developing countries are going still higher. [5] This is high time that some studies are done to find out whether episiotomy is justified despite the operative morbidity it incorporates. [6, 7] Thus this study was conceived to find out whether the severe degrees of perineal tear are prevented by giving episiotomy.

Materials and Methods

We did a hospital based study of 9662 women who had vaginal delivery at TUTH, a tertiary level hospital in Kathmandu from April 2003 to October 2006 for a period of 42 months. We identified 30 women who sustained severe degree perineal tear and analyzed different obstetric and maternal variables like age, parity, birth weight, period of gestation, episiotomy, instrumentation, duration of second

stage, hospital stay, blood loss and other complications. We compared the outcome of episiotomy with rest 9632 women who had vaginal delivery during the same period of time.

Third and fourth degree perineal tear were considered as severe degree perineal tear. A third degree perineal tear was defined as any tear involving perineal skin, muscles and anal sphincter. A fourth degree perineal tear was defined as any tear involving perineal skin, muscles, anal sphincter and anal/rectal mucosa

Results

Out of 9662 vaginal delivery that occurred during the study period, it was found that the episiotomy were given to 49.0% (n=4250) of the total vaginal delivery with the overall rate of third and fourth degrees of perineal tear being 0.22% (n=21) and 0.09% (n=9) respectively. Among women who were given episiotomy 0.42% (n=18) had severe degree perineal tear. Among women who were not given episiotomy 0.22% (n=12) had severe degree perineal tear.

Among 30 women who sustained severe degrees of perineal tear, 56.7% (n=17) had third degree perineal tear and 26.6% (n=8) had fourth degree perineal tear. Majority were given episiotomy, 60.0% (n=18) in comparison to 36.6% (n=11) who were not given episiotomy (Table1). Third [13.3% (n=4)] and fourth [3.33% (n=1)] degrees of the tears were associated with 5 cases of cervical tear.

Table 1: Episiotomy vs degree of perineal tear

Degrees of perineal tear	Epi	No epi	NA	Total
IIIº tear	10	7	0	17 (56.7%)
IIIº+Cx tear	3	1	0	4 (13.3%)
IVº tear	4	3	1	8 (26.6%)
IVº+ Cx tear	1	0	0	1 (3.33%)
Total	**18 (60.0%)**	**11 (36.6%)**	**1 (3.0%)**	**30 (100%)**

Average age of women who sustained severe degree perineal tear was 24.5 years, ranging from 18 to 38 years. Primi were given episiotomy more commonly than multi. (Table 2). Injury occurred more in primi, 76.7% (n=23) compared to 23.3% (n=7) in multipara (Table 3).

Table 2: Episiotomy vs parity

	Epi	No Epi	NA	
Primi	16	6	1	23(76.6%)
Multi	2	5	0	7(23.3%)
	18 (60.0%)	11 (36.6%)	1 (3.0%)	30 (100%)

Table 3: Parity vs degree of perineal tear

	Primi	multi	Total
IIIº tear	13	4	17 (56.7%)
IIIº+Cx tear	4	0	4 (13.3%)
IVº tear	5	3	8 (26.7%)
IVº+Cx tear	1	0	1 (3.3%)
	23 (76.6%)	7 (23.3%)	30 (100%)

Average duration of second stage was 39.12 min. One woman had precipitate labour with shortest duration of second stage, 1 min. The longest duration of second stage was 162 mins.

Post dated delivery occurred in 46.7% (n=14) cases and were induced with prostaglandins (cerviprime or misoprisstal) 15.4% (n=4) or augmented with syntocinon 46.2% (n=12)

(Table 4). Post dated babies weighed in an average 3.3 kgs.

Forceps was less used [3.33% (n=1) case] than ventouse in 10.0 % (n=3) cases. A case had face presentation, others were cephalic presentation. One case was delivered in alternate squatting position

Women who sustained third degree perineal tear had slightly smaller babies, average birth weight being 3.22 kg compared to 3.31 kg in those who had fourth degree tear. Birth weight ranged from 2.5kgs to 4.5kgs and 26.7% (n=8) had baby weighing 3.5 kgs or more. Primi had smaller babies, 3.1 kgs, compared to multi, 3.6 kgs.

Average duration of hospital stay was approximately 4 days. Two cases (6.6%), one with fourth degree perineal tear and the other one with third degree perineal tear also sustained

Table 4: Induction or augmentation vs degree of perineal tear

	cervi+synto	miso+synto	synto	no	NA	total
IIIº tear	1	2	7	4	3	17
IIIº+Cx tear	1	0	2	1	0	4
IVº tear	0	0	2	5	1	8
IVº+Cx tear	0	0	1	0	0	1
Total	**2 (6.7%)**	**2 (6.7%)**	**12 (40.0%)**	**10 (33.3%)**	**4 (13.3%)**	**30**

cervical tear had post partum haemorrhage. Two cases (6.6%) had post partum urinary retention. (Table 5)

Table 5: Complications in severe degree perineal tear

S No	Complications	Number (%)
1	Primary Post Partum Hemorrhage	2 (6.7%)
2	Urinary retention	2 (6.7%)
3	Vaginal wall haematoma	1 (3.3%)

Discussion

The overall rate of severe degree perineal tear, 0.31% out of 9962 delivery is relatively lower compared to European and American studies.[1,8] Overall episiotomy rate of 49.0% is lower compared to that in Latin American countries like Argentina (80%) but far higher than in European countries like England, where the rates have fallen from 50% in 1980 to 20% in 1994-95.[8]

Majority of women (60%) who sustained severe degree perineal tear were given episiotomy. It was mostly primi (76.6%) who sustained severe degree perineal tear although they commonly episiotomised (53.3%). Liberal use of episiotomy alone could not prevent severe degrees perineal tear, extensions of episiotomy occurring in some cases. Primigravidas were more commonly affected by severe degrees perineal injury than multi although the number of multigravidas were relative larger than the primis which partly may be due to the inelasticity of the perineum. This finding is consistent with other studies.[9] But the severity of tear were found to increase in women giving birth to larger babies. Multiparous women despite giving birth to bigger baby relatively were seen to sustain severe degree perineal tear in lesser number. Post dated delivery also predisposed to severe degree perineal tear partly due to large sized baby.

Precipitate labour caused severe degree of perineal tear. Too short duration of second stage or prolong second stage both predisposed to severe degree perineal tear. Induction with prostaglandins and augmentation with syntocinon was associated with severe degree tear.

Instrumentation has shown to increase the risk of perineal tear severe degree perineal tear agreeing to the findings of previous studies as well. [9] But because of the contrasting number of the cases of ventouse to forceps which is less practiced, its difficult to comment which is more preventive.

A severe degree of perineal tear was also found to be associated with maternal morbidity in terms of immediate complications like post partum haemorrhage, vulval haematoma, urinary retention which significantly increased hospital stay.

Conclusion

Severe degrees of perineal tear occurred more commonly in episitomised, primiparous women who gave birth to bigger babies and episiotomy alone were not seen to prevent severe degrees of perineal tear. Post dated delivery, induction and augmentation and instrumentation also found to be other aggravating factors.

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