

## Perineal Outcome after Restrictive use of Episiotomy in Primi-gravidas

Joshi A,<sup>1</sup> Acharya R<sup>2</sup>

<sup>1</sup>Department of General Practice, Tansen Mission Hospital, Palpa, <sup>2</sup>Department of General Practice and Emergency Department, TUTH, Maharajgunj, Kathmandu, Nepal.

### ABSTRACT

**Introduction:** Episiotomy is a common obstetrical practice that is believed to prevent severe lacerations. Principles of evidence based medicine raises questions on the utility of routine episiotomy.

**Methods:** A prospective observational study was conducted in primi gravidas coming to Tansen Mission Hospital for delivery who were not offered episiotomy sticking to the protocol of restrictive use of episiotomy and the subsequent perineal tear was evaluated in terms of its length, degree and complications. Risk factors associated with significant degrees of perineal tear was investigated.

**Results:** The episiotomy rate during the time of study was only 22%. Among those included in the study, 16.2% of women had intact perineum and majority of women (43.2%) had first degree of tear. Only one (1.4%) had third degree tear without any long term complications. Having a baby weighing 2.5 kg increases the mean tear length significantly ( $P=0.019$ ) and increases the risk of having second or third degree of tear by almost two times (Relative Risk=1.95). No clinically significant complications were observed in any of the women after the delivery.

**Conclusions:** This study provides some evidence that the principle of restrictive use of episiotomy with a total episiotomy rate being around 20% can be carried out successfully even in an under-resourced setting of our country.

**Key Words:** *episiotomy, perineal tear, primi gravida, vaginal delivery*

### INTRODUCTION

The surgical enlargement of the vaginal orifice by an incision of the perineum during the last part of the second stage of labour or delivery started about

250 years back; a process which was later termed as 'episiotomy'.<sup>1</sup>

#### Correspondence:

Dr. Arbin Joshi  
Department of General Practice  
Tansen Mission Hospital  
Palpa, Nepal.  
Email: joshi\_arbin@yahoo.com  
Phone: 9841286978

Episiotomy was first reported to be done in 1741.<sup>2</sup> Obstetricians came to favor episiotomy after a publication by Pomeroy in 1918.<sup>3</sup> Figures about the worldwide use of episiotomy are not well known. Hospital episiotomy rates in the recent years ranged from approximately 20 - 73% in US,<sup>4</sup> 26 to 67% in UK<sup>5</sup> and 39% in Jordan.<sup>6</sup> In a meta-analysis, the prevalence of episiotomy in selective groups of all the studies performed fluctuated around 30%.<sup>7</sup>

The purpose of the current study is to evaluate the perineal tear regarding its length, degree and complications and to evaluate the risk factors associated with the severe degrees of second and third degree perineal tear.

## METHODS

A prospective observational study conducted among primi gravidas coming to Tansen Mission Hospital for delivery between August and November, 2005. Among 410 deliveries, only 74 satisfied the inclusion criteria. All the primi gravidas, irrespective of their age, in 36 to 42 weeks of the gestational period with a single fetus in cephalic presentation, not falling under popular criteria of high risk pregnancy and who had not had any obstetrical procedures like pudendal block, assisted delivery and episiotomy were included in the study. High risk cases such as multiple pregnancy, malpresentation, malposition, hypertensive disease of pregnancy, mother having systemic disease, previous cesarean section; bad obstetric history and prolonged rupture of membrane were excluded from the study.

Informed consent was taken from the women or from the closest relatives. Decision for the episiotomy was left to the doctor or midwife conducting the delivery. The perineal tear after the delivery was assessed regarding its number, length and degree by the principal investigator and the person conducting the delivery. At last the questionnaire was completed with other necessary information. On the day of discharge the tear was again re-evaluated by the investigator and follow up dates were given.

## RESULTS

Total of 410 deliveries took place during the study period, among which 91 (22%) had episiotomies and 74 (18%) satisfied the inclusion criteria and were included in the study.

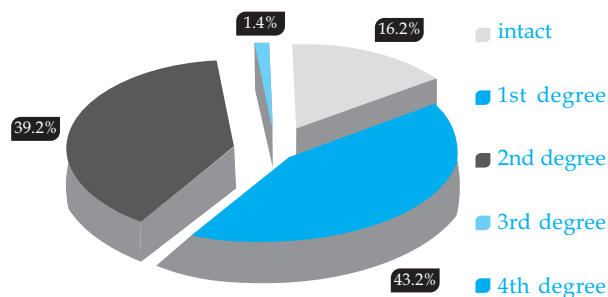
**Table 1. Descriptive Statistics**

Variables	Mean	SD
Age in years	20.7	2.9
Total length of tear in cms	3.2	2.4
Weight of the baby in gms	2723.2	351.2
Head circumferences in cms	32.1	1.5
Second stage of labour in mins	36.2	20.9
Gestational age in weeks	39.1	1.3

(n = 74)

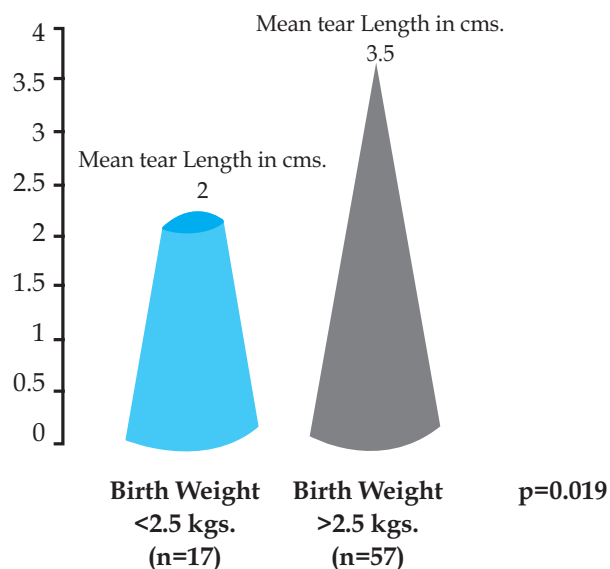
Birth weight of the babies born to these mothers ranged from 2 to 3.75 kgs with majority of the babies (56.8%) weighing in between 2.5 to 2.9 kgs and 23% of babies weighing below 2.5 kgs. Syntocinon induction was done in 43.2% of the cases and majority of the mothers (56.7%) were in the gestational age of 38.1 to 40 weeks of age. 59.4% of the cases had tears lesser than second degree (Figure 1).

Length of the tear had positive correlation with weight of the baby, head circumference of the baby and gestational age (Correlation coefficient being 0.183, 0.171 and 0.58 respectively). Whereas, length of the tear had low negative correlation with the second stage of labour duration (Correlation coefficient = 0.166).



**Figure 1. Types of tear**

Mean tear length in patients with babies' birth weight less than 2.5 kgs is statistically different than mean tear length in those with babies' weight more than or equal to 2.5 kgs ( $P=0.019$ ). Birth of the babies weighing more than 2.5 kgs increases the risk of having significant second and third degree tear by almost two fold (Relative Risk = 1.95). Head circumference of the baby and duration of second stage of labour does not seem to affect the mean tear length significantly.



**Figure 2. Comparison between the mean tear lengths**

Regarding complications, none of the mothers had clinically significant complications related with the episiotomy. Only 24 mothers could be followed up after six weeks and only ten mothers could be followed up after ten weeks. All of them had no long term complications.

## DISCUSSION

In the context of Nepal, Family Health Division, Department of Health Services has published clinical protocols on Reproductive Health on 1999.<sup>8</sup> It has clearly stated that the routine use of episiotomy should not be practiced; as it has been proved that episiotomy is a form of care 'likely to be harmful'. Despite these facts, episiotomy remains a common practice performed in all the hospitals including the central hospitals of Nepal. In one of the central hospital of Nepal, episiotomy rate of 49.3% was found in the year 1999.<sup>9</sup> In the hospital where this study was performed, the episiotomy rate, before the protocol of restrictive use of episiotomy was adopted, was 91% in primi gravidas in the year 2001. In a review article Malla et al<sup>10</sup> concluded that there is an urgent need to restrict the use of episiotomy in vaginal delivery in Nepal.

Among 74 women, about 60% got either no detectable perineal tear or only first degree tear (Figure 1). As all episiotomies imply a second degree perineal tear as suggested by Lede,<sup>11</sup> we can assume that those 60% got away with lesser degrees of tear than an episiotomy, saving the suturing time, suture material and most importantly discomfort to the mother at the time of suturing. A huge meta-analysis<sup>7</sup> including six randomized controlled trials also concluded that restrictive use of episiotomy is associated with reduced risk of posterior perineal trauma, need for suturing perineal trauma and healing complications. The

percentage of the primiparous women in this study who had no detectable tear or an intact perineum is quite high (16.2% vs 6.6%) compared to a study done by Samuelsson<sup>12</sup> in 2883 primiparous women. Lower birth weight of the babies born in this study (average birth weight being 2.7 kgs) could be the reason.

As compared to various other studies conducted in different parts of the world,<sup>4,6,13,14</sup> rate of third degree perineal tear in this study (1.34%), seems to be in the acceptable range. One of the biggest retrospective studies<sup>14</sup> about risk factors of third degree tear done in Netherlands, which included 284,783 vaginal deliveries stated an overall rate of third degree perineal tear to be 1.94%. Shihadeh commented that one of the reasons for third degree perineal tear in primi gravidass is birth weight of the baby being more than 4 kgs. We cannot make any comment in this fact because we didn't have any baby born with more than 4 kgs but we can definitely comment from the results of this study that birth weight of more than 2.5 kgs is associated with longer perineal tear (3.55 cm vs 2 cm, P=0.019) but not with the greater degrees of tears. In fact, with this study we were unable to determine the causative factors for the greater degrees of tear as there was only one third degree perineal tear and none of the factors were shown to significantly increase the severe degrees (second or third) of tear. However, birth weight of more than or equal to 2500 gms increased the risk of having significant 2<sup>nd</sup> and 3<sup>rd</sup> degrees of tear by 2.72 times (Relative risk 1.95, Odds ratio 2.72). Similarly, head circumference of more than or equal to 32 cms increased the risk by 1.31 times only (Relative risk 1.13, Odds ratio 1.31).

A prospective study done in University of Trieste, Italy by Pregazzi<sup>15</sup> in 2002, involving 218 primiparae concluded that immediate postpartum perineal examination is not a good predictor of stress incontinence and pelvic floor weakness. Still, in this study we couldn't find any serious complications on perineal examination on the next day of delivery. Among the few who followed up after six and ten weeks, none of the mothers had any serious complications except pain.

In five years of follow up of 38 women who had disruption of the anal sphincter, Ghessing<sup>13</sup> in 1998 concluded that 34%, among the 57% who had complications, had flatulence incontinence and rest were incontinent of either liquid or solid stool. The woman who had third degree perineal tear in this study, in the short follow up on ten weeks, didn't show any signs of incontinence.

This study definitely had a poor follow up. The reason could be poor economical condition of the patients of this region and difficult geographical and political situation of Nepal. Nepali custom of going to the parent's home soon after giving birth to a baby could be another reason for losing

mothers in follow up. The follow up date was deliberately coincided with the date of first and second DPT vaccination so that they don't have to travel to the hospital just for the follow up for this study. Still, the poor follow up might be because of the wide availability of the vaccines in the villages. The duration of the follow up was also not long, as we had to finish the study in a limited period of time. Apart from this, there were lots of other limitations of this study. It was a small scale study. There were no control groups for comparison. Sample size was not calculated statistically so we are not sure whether the sample was adequate or not.

The results of the study apply equally to developed and developing countries. The policy of restrictive use of episiotomy holds more significance in the context of our country in the sense that the mean birth weight of the

babies born to under-nourished Nepali mothers are very low and as this study shows significant correlation between the birth weight of the baby and the laceration length, episiotomy seems to be an unnecessary intervention.

## CONCLUSIONS

The principles of evidence-based care are more important nowhere than in the process of birth. We need to turn our research efforts for analysis of obstetric techniques that help maintain the integrity of the perineum during childbirth. Considering the strength of the evidence and the common occurrence of the procedure, decreasing episiotomy rates can be seen as a litmus test for the application of evidence-based reproductive health care.

## REFERENCES

1. Thacker SB, Banta HD. Benefits and risks of episiotomy; an interpretative review of the english language literature. *Obstet Gynecol Surv.* 1983;38:322-33.
2. Ould F. A treatise of midwifery. London: J Buckland; 1741. p.145-6.
3. Keith D. Edmonds Dewhurst's Text Book of Obstetrics and Gynaecology for Postgraduates. 6th ed. UK: Wiley-Blackwell; 1999.
4. Webb Da, Culhane J. Hospital variation in episiotomy use and the risk of perineal trauma during childbirth. *Birth.* 2002 Jun;29(2):132-6.
5. Williams FL, du V Florey C, Mires GJ, Ogston SA. Episiotomy and perineal tears in low risk UK primi-gravidae. *J Public Health Med.* 1998 Dec;20(4):422-7.
6. Shihadeh AS, Nawafleh AN. Third degree tears and episiotomy. *Saudi Med J.* 2001 Mar;22(3):272-5.
7. Carroli G, Belizan J, Stamp G. Episiotomy for vaginal birth. *Birth.* 1999 Dec;26(4):263.
8. Family Health Division. Reproductive Health, Clinical protocols for Medical Officer. Kathmandu: Family Health Division, Department of Health Services, Ministry of Health, HMG Nepal; 1999.
9. Verma S et al. Study on complication of Episiotomy at maternity hospital. 1999 (Unpublished data).
10. Malla DS. Episiotomy: A challenging obstetric intervention. *J Nep Med Assoc.* 2003;42:54-8.
11. Lede, Roberto L, Belizan JM, et al. Is routine use of episiotomy justified? *American Journal of Obstetrics and Gynaecology.* 1996;174(5):1399-402.
12. Samuelsson E, Ladfors L, Lindblom BG, Hagberg H. A prospective observational study on tears during vaginal delivery: occurrences and risk factors. *Acta Obstetrica et Gynecologica Scandinavica.* 2002;81(1):44-9.
13. Gjessing H, Backe B, Sahlin Y. Third degree obstetric tears; outcome after primary repair. *Acta Obstet Gynecol Scand.* 1998;77(7):736-40.
14. De Leeuw JW, Struijk PC, Vierhout ME, Wallenburg HC. Risk factors for third degree perineal ruptures during delivery. *BJOG.* 2001;108:383-7.
15. Pregazzi. Prospective study on effect of episiotomy on 218 Primiparous women, University of Trieste, Italy. *BJOG.* 2002 May;162:334-8.