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Original article

Restrictive v/s Routine episiotomy in Primigravida

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Abstract

Introduction: Episiotomy is the surgical enlargement of the vaginal orifice by an incision on the perineum during the last part of the second stage of labour or delivery. Episiotomy is the most common surgical procedure experienced by women. In near past there were many studies pointed out its disadvantages like more post-delivery pain, wound complications and dyspareunia. So, this study was done to compare use of restrictive episiotomy and routine episiotomy in primigravidae undergoing vaginal birth. ***Aims and objectives:*** To assess the effects of restrictive use of episiotomy in comparison with routine episiotomy in primigravida during vaginal birth in terms of - (1) No. of episiotomies can be avoided (2) Perineal tear (3) Blood loss (4) Hematoma & Healing complications (5) Faecal & urinary incontinence (6) Dyspareunia. ***Material and methods:*** This study was descriptive analytic study conducted in the Department of Obstetrics and Gynecology, Surat municipal institute of medical education and research (SMIMER), Surat from January 2017 to June 2019 with sample size of 148 patients. ***Results:*** This study included total 148 patients, where 74 were selected randomly in each group. In Restrictive Episiotomy group, out of 74 patients, Episiotomy was required in 18 (24.32%) patients. Thus, Episiotomy was avoided in 56 (75.68%) patients. Mean duration of second stage of labour in Routine Episiotomy group was 31.88 ± 5.37min and in Restrictive Episiotomy group it was 32.35 ± 3.73min, which was suggestive of no statistically significant difference. (p value = 0.5375). Total 4.05% patients in Routine group and 13.51% patients in Restrictive group suffered from anterior vaginal tear which was statistically significant (p value = 0.021). There were 2 cases (18%) of 2nd degree perineal tear in routine episiotomy group which were 8(40%) in restrictive episiotomy group. The difference was statistically assessed by Chi-square and found to be significant (p value=0.2399). Not a single case of 3rd & 4th degree perineal tear in either group. In Routine Episiotomy group, suturing was done in 100% patients. While restricted episiotomy group only 44.59% needed suturing which was statistically significant (p value:<0.0001). Average blood loss in Routine group was 341.89 ± 49.33ml and in Restrictive group was 301.01 ± 52.41ml. So, there was significantly higher blood loss in Routine Episiotomy group. (p value= 0.000002). Complications rate in the form of episiotomy wound gap and hematoma was higher in routine group in 5.41% patients as compared to 1.35% patients in Restrictive group. Postpartum perineal pain at 1 week (14 v/s 5) and 2 weeks (5 v/s 1) was significantly higher in routine group as compared to the restrictive group. Postpartum perineal pain at 1 week and 2 weeks was significantly higher in routine group as compared to the restrictive group. ***Conclusion:*** In conclusion on the basis of our study, the immediate outcomes of routine episiotomy are no better than the restrictive use of episiotomy. Indeed, routine use is harmful to the degree that some proportion of women who would have had lesser injury instead had a surgical incision. The routine use of episiotomy has higher incidence of peripartum blood loss, requirement of suturing, postpartum perineal pain and healing complications. The policy of restrictive use of episiotomy is not associated with any third and fourth degree perineal tear or adverse neonatal outcomes.

Keywords: ***Episiotomy, Primigravida, vaginal delivery.***

Introduction

Pregnancy and childbirth is a desire that every woman cherishes in her lifetime with fond memories. Normal vaginal births can cause tears to the vagina and surrounding tissues during delievery of the head of the baby which may extend upto rectum sometimes. Hence, episiotomy became a common practice during the first delievery of the woman. Episiotomy is a straight surgical incision from the posterior fourchette. it is much easier to repair than the ragged vaginal tears occurring during delievery . The rationale for routine prophylactic episiotomy in all Primigravida patients is to protect the pelvic floor muscles thereby minimizing the risk of urinary incontinence and pelvic floor dysfunction.

First mention of such perineal incision was by a Dublin midwife, Sir Fielding Ould in 1942 [1].

Michaelis first recommended midline incisions in 1799 [2].

Mediolateral episiotomy was first described by Dubois in 1847 [2].

In 1920, at a meeting of the American Gynecological Society in Chicago, USA, Joseph DeLee was the first one to publicly advocate routine adoption of mediolateral episiotomy for all deliveries in nulliparous women [3].

By 1938, Diethel asserted that the indications for episiotomy were well established and needed no defense [4].

In 1983, Thacker and Banta produced a very comprehensive review of all the published data from 1860 to 1980 and concluded that there was poor evidence to support the routine use of episiotomy[5].

The routine episiotomy once considered as vanguard to protect the perineum, the pelvic floor and the fetus from injuries during parturition gradually became less used in modern evidence-based obstetrics since maternal damage outweighs the benefits to the

mother. In near past there were many studies pointed out its disadvantages like more post-delivery pain, wound complications, blood loss, perineal tear and dyspareunia, while nothing to do with reducing urinary incontinence or neonatal outcome. Stock and coworkers (2013) [6] Williams and Chames in 2006 [7]. Goldaber and associates in 1993 [8].

Thus, routine use of episiotomy is limited to high-risk pregnancies like short rigid perineum, shoulder dystocia, vaginal breech, face to pubis and instrumental deliveries. Duggal, 2008 [9]; Stock, 2013 [10]

Hence in present day practice, considering the complications with routine episiotomy, use of restrictive episiotomy is under trial and evaluation for better outcome and lesser complications in the form of lesser number of peri-anal traumas, need for suturing and fewer healing complications. [Farrell, 2012 [11]; Fitzpatrick, 2000 [12]; Roberts, 1990 [13].

Materials and Methods

This study was descriptive analytic study conducted in the Department of Obstetrics and Gynecology, SMIMER, Surat from January 2017 to June 2019 with sample size of 148 patients.

Inclusion Criteria:

Women admitted to labour room who fulfilled all of the below mentioned criteria were included in this study.

1. Primigravida
2. Singleton pregnancy
3. Gestational age more than 37 weeks
4. Age>18 years
5. Patient who gave consent

Exclusion Criteria:

Women admitted to labour room with any one or more of the criteria mentioned below were excluded from this study.

1. Multigravida
2. Multifetal Gestation
3. Gestational age less than 37 weeks
4. Medical condition associated with pregnancy
5. Those who does not deliver vaginally
6. Instrumental delivery
7. Occipito-Posterior position with face to pubis delivery
8. Patients not willing to participate

In each case, detailed history & written informed consent was taken as per the proforma followed by clinical examination at the time of admission.

On admission the patients were allocated randomly to one of two groups;

Group 1: Routine episiotomy. In this group all women were given mediolateral episiotomy with prior infiltration of 0.5% lignocaine during the last part of second stage of labor.

Group 2: Restrictive episiotomy was practiced unless it was considered medically essential by the Obstetrician, i.e. if a patient was going to sustain greater damage without episiotomy or if the intact perineum was thought to be hindering the achievement of a safe normal delivery.

Patients were monitored during 1st and 2nd stage of labor & delivery was done with or without episiotomy as described above.

Active management of third stage of labor was done in all patients. Blood from placental delivery, episiotomy or tear site was collected in the pouch. Thereafter, the blood collected inside the pouch was poured into a cylinder and measured.

Following parameters were evaluated & recorded in case paper- Episiotomy if carried out, types of delivery, vaginal/perineal tear & extension of episiotomies was noted. Suturing was done with Vicryl no 1-0 in all episiotomies & in case of perineal tear if required (i.e. sutured in view of active bleed from that site) after giving local anesthesia with 0.5% lignocaine.

Total blood loss was calculated & compared in both groups. The extent of bruising, hematoma, swelling or infection of the perineum was recorded daily. The patients were discharged 48 hours after delivery or later depending upon mother's and neonate condition.

At the follow up postnatal visit after 1 week, 2 weeks, 6 weeks and every 2 months till 6 months of delivery, the severity of perineal pain, healing complications & dyspareunia were asked and recorded.

Data was compiled and analyzed. Statistical analysis was carried out using "Z" test, Chi-square test and t-test. Associated p values were calculated assuming significance at p value <0.05.

Results & Discussion

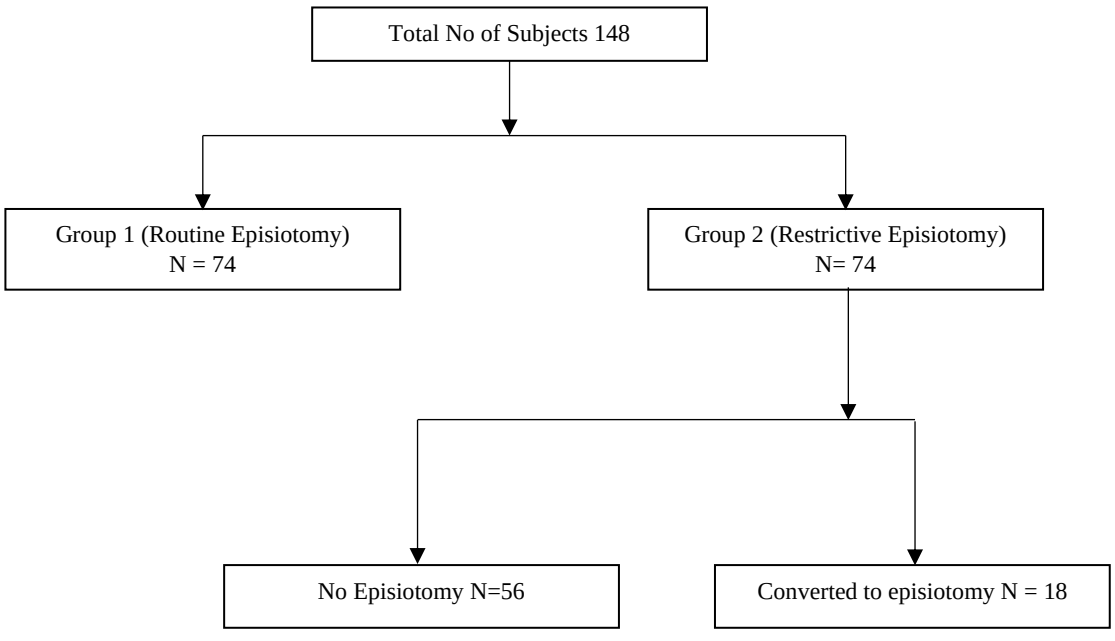

Figure 1

Above flow chart explains the complete distribution and flow chart of study as it was conducted by splitting the total 148 subjects into two groups.

Group 1: Routine episiotomy (n =74). In this group all women were given episiotomy during the last part of second stage of labour.
Group 2: Restrictive episiotomy (n = 74) was practiced unless it was considered medically essential by the Obstetrician.

Table 1: Need for Episiotomy

Group	Number	Converted to Episiotomy	Percentage
Routine	74	74	100.00 %
Restrictive	74	18	24.32 %

This study included total 148 patients, where 74 were selected randomly in each group. In Restrictive Episiotomy group, out of 74 patients, Episiotomy was required in 18 (24.32%) patients. Thus, Episiotomy was avoided in 56 (75.68%) patients.

In review of literature, there is wide range of variation for conversion to episiotomy from 7.60 % [Harrison et al, 1984[14]] to 43.90 % [Klein et al, 1992 [15]], which was 24.32% in our study.

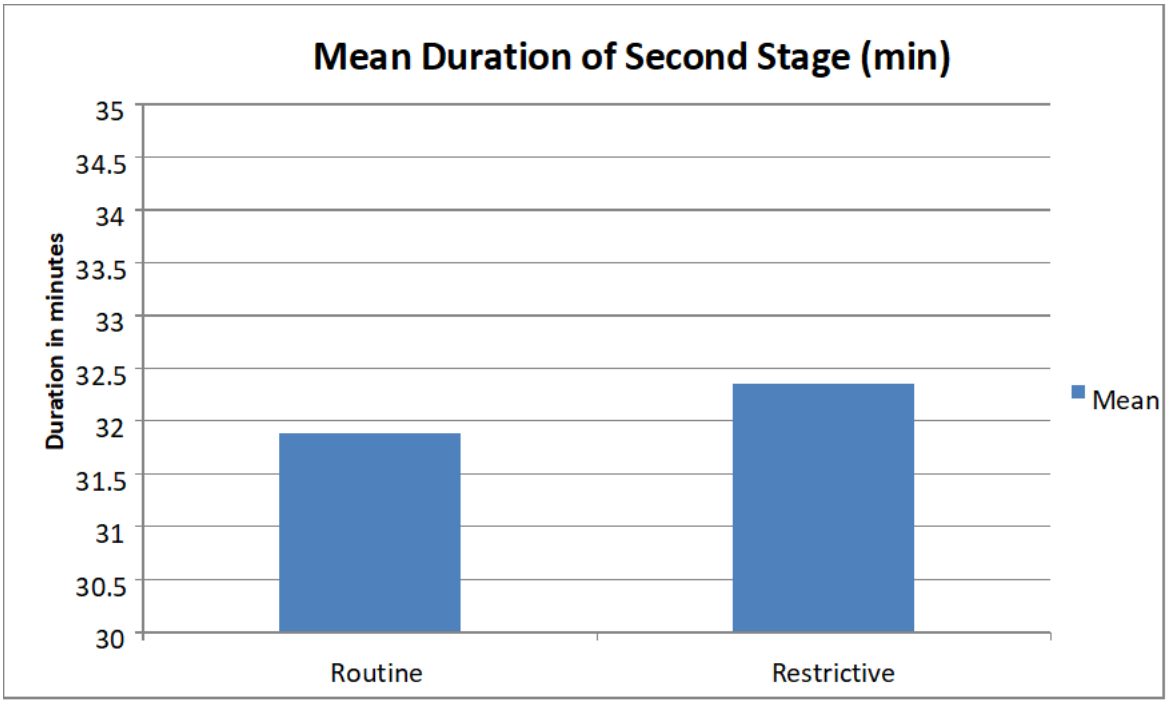

Figure 2: Distribution based on Duration of Second Stage of Labor

As per above mentioned table, the mean duration of second stage of labour in Routine Episiotomy group was 31.88 ± 5.37min and in Restrictive Episiotomy group it was 32.35 ± 3.73min. The difference between the second stage of labour for the two groups was assessed using t-test and it was found that there was no statistically significant difference. Thus, it indicates that restrictive use of episiotomy does not prolong the second stage of labour.

A study conducted by Clemons et al in 2005 [16] and Deshwal et al in 2017 [17] showed that routine and restrictive use of episiotomy was found to have no statistical significant difference on duration of second stage of labour.

Table 3: Distribution based on Types of Genital Tear

Location of Tear		Routine	Restrictive		P value
	(n=74)	Percentage	(n=74)	Percentage	
Anterior Vaginal	3	4.05%	10	13.51%	**0.0210**
Lateral Vaginal	3	4.05%	2	2.71%	0.3246
Paraurethral	2	2.71%	3	4.05%	0.3246
Perineal	11	14.86%	20	27.02%	**0.0345**
Total	19	25.67%	35	47.29%	**0.0031**

In the current study, total 10.81% patients suffered from anterior/lateral vaginal and para-uretheral tears in the Routine group as compared to 20.27% in Restrictive group.

Total 4.05% patients in Routine group and 13.51% patients in Restrictive group suffered from anterior vaginal tear. When it was assessed statistically, there was significantly higher anterior trauma in Restrictive as compared to Routine group (p value= 0.021).

Our findings are comparable with studies done by Deshwal et al, 2017 Argentine Episiotomy Trial Collaborative Group, 1993 [18], & Klein et al, 1992.

Anterior lacerations were less severe than posterior tears and therefore they did not contribute to overall higher usage of suturing.

In our study, 52.70% patients delivered with an intact perineum in restrictive episiotomy group without a single case of third or fourth degree perineal tear which was 64.45% in Deshwal et al, 2017 [19] study, 64.00% in Saxena et al, 2010 [20] study and 33.9% in Sleep et al, 1984 [21] study.

Table 4: Distribution based on degree of Perineal Tear

Degree of Tear	Routine		Restrictive		P value
	Number	Percentage	Number	Percentage	
First	9	82%	12	60%	**0.2399**
Second	2	18%	8	40%	**0.0247**
Third	0	0%	0	0%	-
Fourth	0	0%	0	0%	-
Total	11	100%	20	100%	**0.0345**

Above table depicts that there were 2 cases (18%) of 2nd degree perineal tear in routine episiotomy group which were 8(40%) in restrictive episiotomy group. The difference was statistically assessed by Chi-square and found to be significant (p value=0.0247).

There were no third or fourth degree perineal tear in either groups. Assessment of relation of episiotomy with third or fourth degree perineal tear requires larger study population

Table 5: Comparison of Mean Blood Loss

Blood Loss(ml)	Routine	Restrictive	P value
Mean±SD	341.89±49.33	301.01±52.41	**0.000002**

The above table depicts that, average blood loss in Routine group was 341.89 ± 49.33ml and in Restrictive group was 301.01 ± 52.41ml. So, there was significantly higher blood loss in Routine Episiotomy group. When it was assessed by Statistical method, the difference was found to be statistically significant. (p value = 0.000002).

But study done by Apurva et al in 2016 [22], for mean blood loss, there was no statistical significant difference between both the groups.

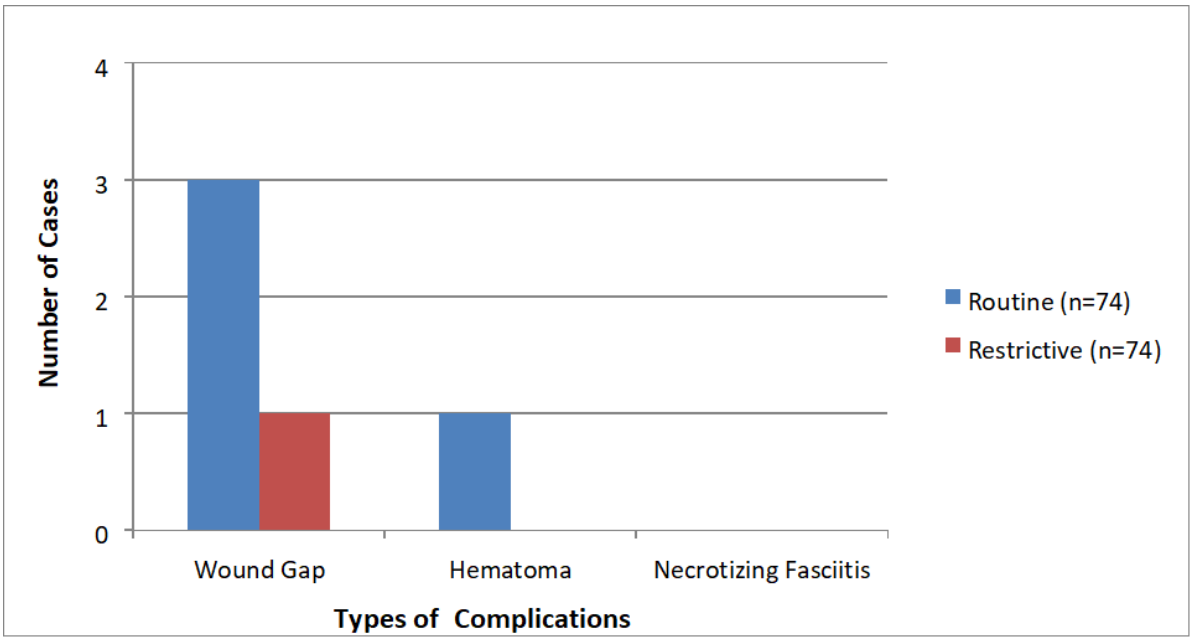

Figure 3: Comparison based on Healing Complications

As seen in the above table, complications rate in the form of episiotomy wound gap and hematoma was higher in routine group (5.41%) as compared restrictive group (1.35%). When it was statistically assessed using Z test, the difference was found to be insignificant.

In the study done by Deshwal et al in 2017, the complication rate in routine group was 6% as compared to 2.22% in routine group with statistically no significant difference between both the groups Carroli et al in 2009 [23] concluded that compared with routine use, restrictive episiotomy resulted in less healing complications.

Table 7: Comparison at follow up visit

Follow Up Visit	Post-Partum 1 week		Post-Partum 2 weeks		Post-Partum 6 weeks		6 months follow up	
Group	Routine	Restrictive	Routine	Restrictive	Routine	Restrictive	Routine	Restrictive
Pain	14	5	5	1	0	0	0	0
Dyspareunia*	-	-	-	-	-	-	7 (n = 41)	3 (n = 43)
P value (Pain)	**0.01350**		**0.04775**		-			

At postpartum 1 week follow up visit, 14 patients had perineal pain as compared to 5 patients in Restrictive group. At postpartum 2 week follow up visit, 5 patients in Routine group had perineal pain as compared to 1 patient in Restrictive group. Thus, postpartum perineal pain at 1 week and 2 weeks was significantly higher in routine group as compared to the restrictive group which is statistically significant (p value at 1 week postpartum 0.01350 and at 2 weeks post-partum is 0.04775). At postpartum 6 weeks follow up visit, no patient in either group had perineal pain and none of them resume intercourse.

At 6 month follow up, in routine episiotomy group,41 patients resumed sexual intercourse of which 7 had dyspareunia and

in restrictive group 3 out of 43 patients had dyspareunia with which is statistically significant.

According to Katherine et al [24] in 2013, those who have episiotomy may be more likely to have pain with intercourse in the months after pregnancy and are slower to resume having intercourse.

Conclusion

In conclusion, routine use of episiotomy is no better than restrictive use of episiotomy. Instead, routine use of episiotomy is harmful since some women may have more peripartum blood loss , requirement of suturing, postpartum perineal pain, healing complications and dyspareunia. Also, restrictive use of episiotomy is not associated with prolonged 2nd stage of labor and any adverse maternal outcome including 3rd or 4th degree perineal tear or adverse neonatal outcome.

Hence, the policy of restrictive use of episiotomy should be adopted as a new norm for singleton term vaginal delivery.

Limitations of study

- In our study, we practiced only mediolateral episiotomy. The outcomes in relation to other types of episiotomies like median, lateral, etc. were not evaluated in this study.
- Performing an episiotomy in the restrictive group is highly subjective i.e. depends on the accoucheur whether or not to give an episiotomy.
- Complete perineal tear during labour is relatively rare complication and its evaluation requires larger study duration.
- VAS assessment for postpartum perineal pain is highly subjective. Some patient may have difficulty in understanding and therefore completing the scale

Conflicts of Interest

None declared.

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