Research Article

Comparison of Perineal Tears in Primigravida during Vaginal Delivery at Term with and without Medio -Lateral Episiotomy

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Abstract

Background: Perineal tear clinically defined as tearing the perineal skin and muscles only. Sometimes injury involving the anal sphincter or anal mucosa results in major degree tears, causing faecal urgency or incontinence. Prophylactic episiotomy is performed to prevent the laceration of skin and soft tissue of perineum and involvement of anal canal and rectum is still controversial. Clinically perineal tissue stretching is done by perineal massage in antenatal period or during second stage of labor.

OBJECTIVES: To compare the frequency of major degree perineal tears with and without Medio Lateral Episiotomy in primigravida during spontaneous vaginal delivery at term.

Material and Methods: This present randomized control trial was carried out at gynae unit 5, KEMU, Lady Aitchison hospital, Lahore in a period of one year.(1-7-2015 to 30-6-2016) The non-probability, purposive sampling technique was used to randomized the study population. Informed consent and demographic information was obtained. The data was entered and analyzed on SPSS version 17.

Results: In our study the mean age of the patients was 28.43±6.33 years and the mean gestational age was 39.46±1.14 weeks. The perineal tear were present in 29(16.11%) patients, The first degree perineal tear was present in 8(27.59%) cases. The second, third and fourth degree of perineal tears was present in 7(24.14%) patients each respectively.

Conclusion: According to our study the incidence of perineal tear was 29(16.11%). No significant association was found between groups and degree of perineal tear.

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Keywords | Perineal Tears, Episiotomy, Vaginal delivery, First Birth

Introduction

The majority of women aim for a spontaneous vaginal delivery with an intact perineum. Unfortunately, this outcome is achieved in barely half of women who deliver in the UK. The process of labor is a physiological phenomenon with an inherent unpredictable tendency to develop complications that needs intervention by the Obstetrician. Child births frequently involve vaginal tears and for successful and ease of birth requires increase in vaginal hiatus diameter. This can be performed by the skilled obstetricians a procedure called episiotomy.[1,2] Prevention of major vaginal tears has been successful by episiotomy but routine and excessive use is still controversial. In addition to this the differences between effects in midline and medio-lateral episiotomy are still not understood.[1]

Episiotomy is the most frequently used surgical procedure during child birth. Although it can cause trauma and fibrosis of the perineum, this does not reduce its frequent use during delivery. As evident in reports of North America and Asia where 100% rate of episiotomy is observed.[3] RCOG (March 2007) reported episiotomy rate as 8% in Holland, 14% in England, 50% in USA and 95% in Eastern Europe.

The reported frequency of Obstetrical Anal Sphincter Injuries (OASIS) in single, term, vaginal first birth in England has raised from 1.8% to 5.9%.[3] Mediolateral episiotomy serves as a factor that effects obstetric anal sphincter injury as women having medio-lateral episiotomy have low incidence, and vice versa. This is observed in operative vaginal delivery, (RR 0.17; 95% CI, 0.12–0.24). It is estimated to have a six times less risk of obstetric anal sphincter injury in patients having Mediolateral Episiotomy (ME) and operative vaginal delivery. Therefore, it is preferable to give medio-lateral episiotomy in operative vaginal deliveries to decrease the risk of injury to anal sphincter.[4,5]

It has been reported by de Vogel et al, in his study that 5.7% of third and fourth degree perineal tears were present. In contrast patients with medio-lateral episiotomy had only 3.3% incidence of a third or fourth degree perineal tear, but in patients having midline episiotomy this rate was 15.5% (P<0.0001). Hence giving medio-lateral episiotomy in vaginal delivery reduces the complications.[6] There is another report that shows patients with medio-lateral episiotomy had 3.7% incidence of third or fourth degree perineal tears in contrast to patients without medio-lateral episiotomy having only 1.1% incidence (P<0.0001). Differences of this report are insignificant but it suggests reduced complication without medio-lateral episiotomy. Authors thus concluded that frequent medio-lateral episiotomy in primigravida is linked with a higher prevalence rate of injuries specially obstetrical injuries.[7]

Factors consistently shown to be associated with perineal tears involving the anal sphincter are instrumental delivery,[17,22] forceps delivery is associated with a higher risk than ventouse, prolong second stage of labor, first birth, large for gestational age or birth weight and Occipito Posterior (OP) position of the fetus.[5,14,21,22]

Episiotomy as a risk or protective factor for OASIS is controversial: some studies report a reduced risk with a medio -lateral incision,[5,22] and others are either inconclusive,[8,20] or report increased risk. However, randomized controlled trials (RCTs) have failed to demonstrate a significant reduction in OASIS in women who received an episiotomy compared with women who did not.[19,20] The role ethnicity plays as a risk factor for OASIS is also unclear.[20,23]

Few multivariable analyses are available reporting on the impact of maternal birth or pushing position, type of pushing, digital perineal stretching during second stage, 'hands off' delivery, or care setting, as risk factors for perineal injury.[4,8,18,19] Many of these observational studies are retrospective, and data from RCTs have failed to corroborate the findings and are limited by small sample size. Another limitation of studies reporting on perineal trauma is that they have been largely conducted on women in the hospital setting, and it is important to also evaluate the incidence and pattern of perineal trauma in all settings where women plan to give birth.

The aim of this large prospective study was to estimate the range of perineal trauma sustained by women with a planned, singleton spontaneous vaginal delivery in hospital settings.

Rationale of this study is to compare the frequency of major degree perineal tears in planned singleton spontaneous vaginal delivery at term with and without Mediolateral episiotomy in Primigravida. It has been observed through literature that controversial evidences have been stated which confused the obstetricians whether to rely on medio-lateral episiotomy or not for difficulty during vaginal delivery. Through this study we want to confirm whether medio-lateral episiotomy is helpful to prevent major degree perineal tears, so that we will be able to implement the results of this study in future.

Methods

The study design was Randomized Controlled Trial and carried out at Unit V, Department of Gynae and Obstetrics, KEMU, Lady Aitchison hospital, Lahore. Duration of Study was one year period from 1:7:2015 to 30:6:2016. Sample size of 180 cases; 90 cases in each group is calculated with 80% power of test, 5% level of significance and taking expected percentage

of third and fourth degree perineal tears i.e. 3.3% with episiotomy and 15.5% without Mediolateral episiotomy in Primigravida undergoing spontaneous vaginal delivery at term. Non-Probability, Purposive Sampling technique was used.

Clinically an episiotomy (also called second degree perineal tear) was defined as surgical procedure involving incision of skin and muscles of perineum in the medio-lateral direction in 2nd stage of labor during child birth. Perineal tear was categorized as first degree when perineal skin and vaginal mucosa was torn. Third-degree tear was defined as tearing of forchette, vaginal mucosa, perineal skin and muscles and anal sphincter; Further subdivisions include following three subcategories: 3a: that is partial laceration of the external anal sphincter with characteristic < 50% thickness, 3b: Greater than 50% tearing of the external anal sphincter, 3c: internal sphincter is slashed/torn. Fourth-degree tear was defined when third degree tear further extend and involve anal mucosa. If tear was observed, then classification and categorization was done by senior resident or senior registrar on duty.

Inclusion criteria consist of 1.Primigravida females of age 18-40 years 2. Presenting at term . 3. Singleton cephalic pregnancy of fetal weight range from 2.5 Kilogram to 3.5 Kilograms (on USG and clinical estimation) undergoing spontaneous vaginal delivery.

Exclusion criteria consist of females with multiple pregnancy, macrosomia fetal weight more than 4.0Kilograms, malpresentation, malposition, gestational or chronic systemic problems i.e. diabetes, pregnancy induced hypertension, pre-eclampsia, eclampsia, those who required any type of episiotomy for instrumental delivery. Females with history of extended perineal injuries or surgery were also excluded.

An informed consent and demographic information (name, age, gestational age and contact) was obtained. Then females were randomly divided into two groups by using lottery method. Females in group-A underwent delivery by Mediolateral Episiotomy and females in group-B underwent delivery without Mediolateral Episiotomy. Women were willingly opted to be enrolled in group A or group B. All deliveries were conducted by post graduate trainees who have an experience of six months or more under supervision of senior registrar. Tears were examined and classified by the senior resident or senior registrar. Data was entered and analyzed in SPSS version 17.0. Quantitative data like age and gestational age was presented as mean and standard deviation. Qualitative data like first, second, third or fourth degree perineal tears were presented as frequency and percentages. Chi-square test was used to compare the frequency of third and fourth degree perineal tears in both groups. p value ≤ 0.05 was considered as significant.

Results

In this study total 180 cases were enrolled. Overall the mean age of the patients was 28.43±6.33 years with age range of 18 to 40 years. The mean age of the participants in group A was 28.47±6.07 years and its mean value in group B was 28.40±6.62 years.

The mean value of gestational age of the patients was 39.46±1.14 weeks with minimum and maximum gestational ages of 38 & 41 weeks respectively. The study results showed that the mean value of gestational age in the group A was 39.58±1.13 weeks and its mean value in group B patients was 39.34 ± 1.15 weeks.

In our study the perineal tears were present in 29(16.11%) patients and perineal tear were absent in 151(83.89%) patients (Fig.1). Out of these 29 cases of perineal tear, 12 cases were in women who sustained tears with episiotomy that was in group A and 17 were from group B without episiotomy, similarly the perineal tear were absent in 151 cases in which 78 were from group A and 73 were from group B. Statistically insignificant difference was found between the study groups with perineal tears i e,; P-value = 0.311 (Table1).

Out of 29 cases the first degree of perineal tear was present in 8(27.59%) cases and the second, third and fourth degree of perineal tears was present in 7(24.14%) patients each respectively(Fig.2) Statistically insignificant difference was found between the degree of perineal tears and study groups, i-e p-value=0.839. The study results showed that Statistically insignificant difference was found between the study groups with perineal tear stratified by gestational age i.e. p-value=0.991 & 0.312

respectively.

Table 1: *Outcome Comparison in both Groups*

		Study Groups		p-value
		Group A (n=90)	Group B (n=90)	
Perineal tear	Present	12 (13.33%)	17 (18.89%)	**0.311**
	Absent	78 (86.87%)	73 (81.11%)	
		Group A (n=12)	**Group B (n=17)**	**p-value**
Degree (n=29)	First degree	3(25%)	5(29.41%)	**0.839**
	Second degree	3(25%)	4(23.53%)	
	Third degree	3(25%)	4(23.53%)	
	Fourth degree	3(25%)	4(23.53%)	

Group A=With episiotomy, Group B= Without episiotomy

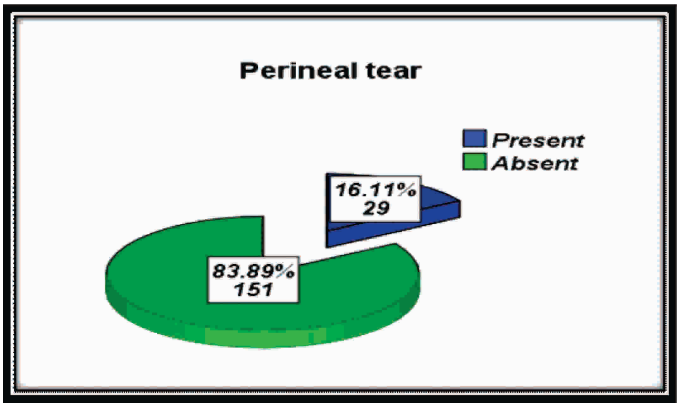

Fig. 1: *Frequency Distribution of Perineal Tear*

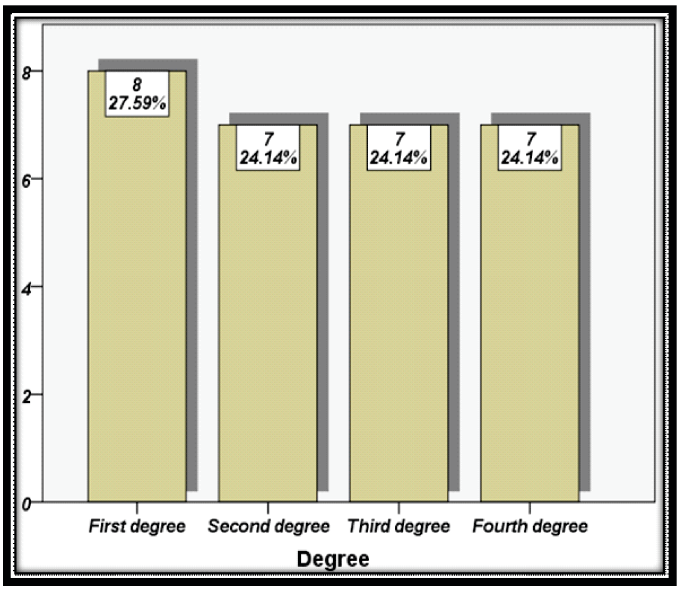

Fig. 2: *Distribution of Different Types of Perineal Tears as Bar Chart.*

Discussion

Episiotomy may lower the frequency of anterior tears, not the posterior ones. Women had to bear more pain compared to perineal tears reported by a comparative study (episiotomy Vs perineal tears).[24] Episiotomy rates can change considerably in different regions. It has been found out in several reports that rates to be 83% in the primigravida. Deliveries in hospitals of United States give a rate of 50%, 30% in Sweden and 53% in England and Wales. Third and fourth degree perineal tears are reduced in episiotomy.[6,8]

Obstetric Anal Sphincter Injuries (OASIS) is associated with significant short and long term maternal morbidity. Anal incontinence is reported by 4.3% (95% confidence interval (CI): 3.5 to 5.9) of women aged 15 to 60 years[16], however, it is acknowledged that it goes unrecognized and is under-reported. Bowel symptoms in women with OASIS vary from 7.6% to 61% depending on the severity of symptoms, parity and type of injury.[10,21]

During 2010-2011 incidence of episiotomy in England reduced from 51% in 1975 to 15%, this is only approximate rate as statistics approach was modified in 2006.[9] According to the RCOG guideline published in 2007, in Holland incidence rate was 8%, 14% episiotomy in England, 50% incidence in the USA and a high rate of 99% in Eastern Europe.[10]

In Primigravida rates for 3rd-degree and 4th-degree perineal tears were observed in England during the year 2011-2012 where: Primigravida depicts 4% incidence following spontaneous vaginal delivery and 6.9% in instrumental delivery. Multiparous rates for 3rd-degree and 4th-degree were observed as: 1.4% following spontaneous vaginal delivery and 2.5% in instrumental delivery.[11,25]

de Vogel et al., reported in his study that 5.7% of third and fourth degree perineal tears were present. In contrast in our study patients with ME had only 3.3% incidence of a third or fourth degree perineal tear. But in patients having ME this rate was 15.5% (P< 0.0001). Hence presence of ME in vaginal delivery reduces the complications rate.[6] There is another report that shows patients with ME had 3.7% incidence of 3rd or 4th degree perineal tears in contrast to patients without ME having only 1.1% incidence (P<0.0001). Differences of this report are insignificant but it suggests reduced complication

without ME. Authors hence concluded that frequent ME in primigravida is linked with a higher prevalence rate of obstetric anal sphincter injuries.

NUDRAT SOHAIL et al[15] was reported in their study that 448 out of 621 primigravida delivered during the study period were vaginal deliveries and criteria was fulfilled for study. Out of these 87.72% delivered with episiotomy, 9.15% delivered vaginally without episiotomy and 3.125% delivered with vacuum and forceps. 5.134% of the patients had perineal tears or lacerations. 2.009% of the tears occurred in the vaginal delivery with episiotomy, 1.339% in vaginal delivery and 1.786% in vaginal delivery with vacuum and forceps. Ist degree tear with spontaneous vaginal delivery with episiotomy was observed in 3 cases, 3rd and 4th degree during spontaneous vaginal delivery with episiotomy not found even in a single case, but two cases of third degree perineal tear was noted with instrumental delivery. While in this study the first degree perineal tear was present in 8 cases in which 3 were from group A and 5 were from group B, second, third and fourth degree perineal tears were present in 7 cases respectively in which 3 were from group A and 4 were from group B respectively. Statistically insignificant difference was found between the degree of perineal tear and study groups. i- e, p - value=0.839.

A study by Aqmar AS, Sulaiman et al[7,12] presented that the incidence of third degree perineal tears was 4 (2.3%), with no reported cases of fourth degree tears. They found that routine medio- lateral episiotomy was associated with higher frequency of third degree perineal tears (3.7% versus 1.1%); however, this did not achieve statistical significance. The rate of third and fourth degree perineal trauma also declined in nulliparous women whom did not receive episiotomy[13].

Lalarukh and Behram study also revealed that first and second degree tears in spontaneous vaginal delivery were 9.85% and 2.9% respectively.[9,10] One study by Bilquees Parveen, Gulfishan Haq and Aneela Sheikh 23 enrolled includes 50 women of routine episiotomy and 50 women of elective episiotomy Second degree tear was seen significantly higher in routine episiotomy groups (74% vs. 44%, p=0.002). A systematic review has estimated the prevalence of any post-partum urinary incontinence with vaginal delivery as 31% (95% CI: 30 to 33%), and weekly or daily incontinence as 12% (95% CI: 11 to 13%) and 3% (95% CI: 3 to 4%), respectively.[16,17] Sexual dysfunction[16,18] and post-partum perineal pain may also occur.[16,17] A large prospective survey of Swedish postpartum women reported that 8%[15,16] of women had not had sexual intercourse within six months after childbirth; of those with an anal sphincter injury the proportion was higher at 13.6%.[20] Take home message is that episiotomy should not be performed as a routine, but according to the individual needs of each parturient.

Limitation of the Study: It is a single hospital based study showing its limitation.

Funding Source: None

Conflict of Interest: None

Conclusion

According to our study the incidence of perineal tear was 29(16.11%). 1st degree was found in 8 cases in which 3 were with episiotomy, and 5 were without episiotomy, 2nd, 3rd, and 4th degree was present in 7 cases respectively. Statistically insignificant difference was found between groups and degree of perineal tear.

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