

# RISK FACTORS FOR INTRAPARTUM PERINEAL TEARS

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## ABSTRACT

**Objective:** To identify risk factors potentially influencing the occurrence of perineal tears during child birth in women presenting to a tertiary care hospital in Peshawar.

**Material and Methods:** This was a hospital based descriptive study, conducted at the department of Obstetrics and Gynaecology, Khyber Teaching Hospital, Peshawar, from February 2007 to August 2007. Women with full term singleton pregnancy in active labour were included in the study. Data was collected using a written, structured questionnaire and analyzed using SPSS.

**Results:** A total of 50 women who had perineal tears during child birth were studied. Nulliparity (76%), episiotomy (62%), prolonged 2<sup>nd</sup> stage of labour (32%), infant birth weight of >3.5 kg (25%), were significantly associated with the perineal tears. Moreover, outlet forceps delivery was a risk factor for major (3<sup>rd</sup> & 4<sup>th</sup>) degree perineal tears.

**Conclusion:** The most important obstetric risk factors for perineal tears are nulliparity, mediolateral episiotomy, instrumental delivery and prolonged 2<sup>nd</sup> stage of labour.

**Key Words:** Perineal tears, risk factors, Anal Sphincter tears.

## INTRODUCTION

Vaginal birth is traumatic to the Pelvic floor & perineum<sup>1</sup>. Despite the fall in maternal mortality in the last century, there is still considerable morbidity associated with child birth. Perineal tears during child birth constitute the most common form of obstetric injury<sup>2</sup>. Approximately, 3 million women give birth vaginally each year in the USA, a significant proportion of those women suffer from some form of trauma to the birth canal, resulting from spontaneous obstetric lacerations or the use of an episiotomy incision<sup>3</sup>. In some countries, the fear of getting perineal tears has led to a large increase in the number of women requesting for elective caesarean section<sup>4</sup>.

Perineal injury during child birth is a matter of concern, not only for the women but also for their obstetricians & care givers. A recent study found that 31% of British obstetricians would choose caesarean delivery without any clinical indication because of concern about severe perineal damage<sup>5</sup>. Perineal trauma during vaginal delivery can have serious consequences & negative impacts on the woman's life. The short term problems are in the form of primary postpartum hemorrhage, pain & need for suturing. It may disrupt breast feeding & family life. The long term problems may be in the form of prolonged pain, urinary incontinence<sup>6,7</sup>, dyspareunia and anal

sphincter defects causing anal incontinence<sup>8</sup>. As considerable postnatal morbidity and occasionally mortality can be attributed to perineal tears during childbirth, therefore, a clear understanding of the risk factors recognition and best management of perineal tears is essential for every obstetrician<sup>4</sup>.

## MATERIAL AND METHODS

Department of Obstetrics & Gynaecology, Khyber Teaching Hospital, which is a tertiary care hospital in Peshawar, Khyber Pakhtunkhwa. The study was conducted from February 2007 to August 2007, it was Hospital based descriptive study. Singleton pregnancies with cephalic presentation with gestational age > 37 weeks, were included in the Study, While the patients with history of previous perineal tears, previous surgical repair of the perineum.

Data was collected from those women who were admitted with full term singleton pregnancy in active labour, after taking informed consent. Detailed history was taken, especially for previous perineal tears/ surgical repair. Period of gestation was calculated by taking into account the 1st day of last menstrual period (LMP) and/ or ultrasonographic findings. Abdominal and vaginal examination carried out to confirm the presence of single fetus with cephalic presentation. The Proforma was completed by the delivering personnel (trainee medical officer). The proforma included demographic data and clinical variables i. e, parity (primiparous & multiparous), the type of episiotomy (medio-lateral or no episiotomy), the type of vaginal delivery (spontaneous, outlet forceps and vacuum delivery), Duration of the 2nd stage of labour (< 30 min, 30-60 min or > 60 min),

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mode of fetal head delivery (controlled head delivery) and infant birth weight (3-3.4kg, 3.5-3.9kg, > 4 kg).

At the end of 3<sup>rd</sup> stage of labour, through inspection of the perineum was done and site and severity of the trauma was noted. Any risk factor/factors for intrapartum perineal tears were recorded. Data was entered and analyzed using SPSS version 10. The perineal tears were categorized into anterior perineal tears (injury to the labia, anterior vagina & peri-urethral area) and posterior perineal tears. Posterior perineal tears were further classified into four types: 1<sup>st</sup> degree was defined as injury to the perineal skin or vaginal mucosa; 2<sup>nd</sup> degree as injury to the perineal muscles; 3<sup>rd</sup> degree as injury to perineum involving the anal sphincter complex; 4<sup>th</sup> degree as injury to perineum involving the anal sphincter complex & anal epithelium<sup>11</sup>. 3<sup>rd</sup> and 4<sup>th</sup> degree tears were also referred as major degree tears. Prolonged 2<sup>nd</sup> stage of labour was defined as 2<sup>nd</sup> stage of labour > 60 minutes. Data was entered and analyzed using SPSS version 10.

## RESULTS

This is a descriptive study of 50 patients who had perineal tears during child birth in Obstetrics and Gynaecology Department of Khyber Teaching Hospital. Most of the patients (62%) were in the age range of 21-30 years. Mean age was calculated as 29 years with standard deviation as SD ± 3.65. Table 1 shows distribution of cases by various variables. Most of the patients were primiparous. Infant birth weight among 50 patients was observed as 25 (50%) babies had birth weight between 3-3.4 kg, 16 (32%) babies had birth weight between 3.5-3.9 kg, 9 (18%) babies had birth weight of > 4 kg. mean birth weight was 3.5 kg with standard deviation ± 0.29. Figure 1 shows mode of delivery of patients, while Table 2 shows percentages of different types of perineal tears sustained by the patients.

## DISCUSSION

In our study, we observed that 38 (76%) of our patients who sustained perineal tears were primiparous while 12 (24%) were multiparous. This result is in accordance with studies done by Sultan & colleagues<sup>9,10</sup>. It may be mainly due to the relative inelasticity of the perineum during first pregnancy and childbirth. 31 (62%) patients received episiotomy during second stage of labour. According to the Royal College of obstetricians and gynaecologists, the overall range of episiotomy in different countries is from 8% in the Netherlands, 14% in England, 50% in the USA to 99% in the Eastern European countries<sup>11</sup>. The relatively higher percentage of 62% in our study may be due to the fact that Asian women are more at risk of receiving episiotomy/sustaining perineal tears during child birth<sup>12</sup>.

**Table 1: Distribution of cases by various variables**

Variables	%age of cases
<b>Parity</b>	
Primiparas	76%(38)
Multiparas	22%(11)
Grand multiparas	2%(1)
<b>2<sup>nd</sup> stage of labour</b>	
Up to 30 min	42%(21)
30-60min	26%(13)
>60min	32%(16)
<b>Birth weight</b>	
3-3.4 kg	50%(25)
3.5-3.9 kg	32%(16)
4 kg or more	18%(9)

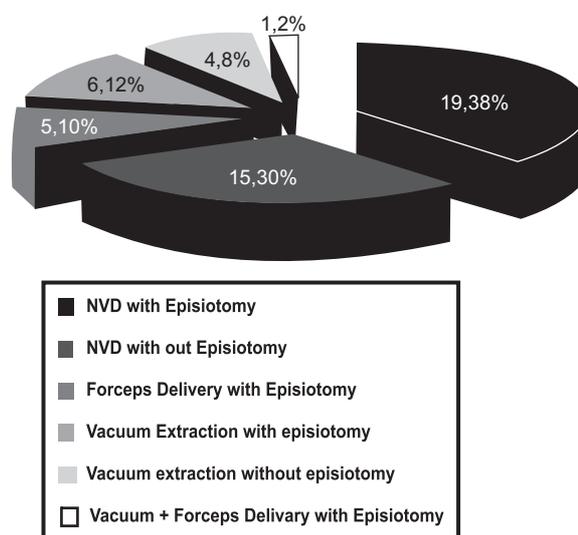


Fig. 1: Mode of delivery

**Table 2: Percentages of different types of perineal tears**

Types of intrapartum perineal Tears	Percentage
Anterior Vaginal wall tears	n=8 (16%)
Labial tears	n=2(4%)
Peri-urethral tears	n=4(8%)
1 <sup>st</sup> degree perineal tears	n=8(16%)
2 <sup>nd</sup> degree perineal tears	n=30(60%)
3 <sup>rd</sup> degree perineal tears	n=3(6%)
4 <sup>th</sup> degree perineal tears	n=1(2%)

Furthermore, we observed that all of our 31 patients (25 were primiparous, 6 were multiparous) who received mediolateral episiotomy sustained some form of perineal tears. Strong evidence in the literature also indicates that routine use of episiotomy should be abandoned as it is not protective against perineal tears<sup>13,14,15</sup>. One of the study done by Ali and Colleagues in Jinnah Hospital, Lahore in 2004, showed that there should be restrictive policy for the use of both type of episiotomies<sup>16</sup>. Our study showed that Instrumental delivery especially forceps deliveries were associated with 3<sup>rd</sup> and 4<sup>th</sup> (major) degree tears. 5 patients (10%) had forceps delivery with episiotomy, 3 (60%) of whom got major degree perineal tears. (2 patients sustained 3<sup>rd</sup> degree tears & 01 patient had 4<sup>th</sup> degree perineal tear).

Ten of our patients (20%) delivered by vacuum extraction and only one patient (2%) got 3<sup>rd</sup> degree perineal tear, while other patients had minor forms of perineal tears. A reason for this difference might be the velocity of extraction, which is higher in forceps delivery and may lead to more trauma<sup>17</sup>. Our study showed that instrumental delivery posed a significant threat to the integrity of the maternal perineum. According to several studies the instrumental vaginal delivery increases the risk of perineal tears and anal incontinence by two to seven fold<sup>18,19,20</sup>.

Our study showed that vacuum extraction caused less perineal tears as compared to the forceps delivery as is shown in the studies done by Shahida Akhtar and Aliya<sup>21,22</sup>. In our study 32% of the patients (12 were primiparous & 04 were multiparous) had prolonged 2<sup>nd</sup> stage of labour who sustained some form of perineal tears. Furthermore, all of the 4 patients who got anal sphincter tears had 2<sup>nd</sup> stage of labour of > 60 minutes. This finding is in accordance with the previous studies which showed that prolonged 2<sup>nd</sup> stage of labour increases the risk of major perineal tears<sup>23</sup>.

We found that baby birth weight of > 3.5 Kg was associated with perineal tears as 25 (50%) had infant birth weight of > 3.5kg. our study supports the previous studies<sup>4,22,23,24</sup> in this regard.

## CONCLUSION

It is concluded that obstetric decision making in vaginal deliveries should be approached from a view point of reducing modifiable risk factors for perineal injury. Instrumental delivery should be performed only when it is absolutely indicated.

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