

Perineal Injury with Vaginal Delivery; What are the Risks

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ABSTRACT

Objective: To observe the severity of the perineal trauma and its risk factors among women who developed perineal tears during vaginal delivery.

Material and methods: This descriptive cross-sectional study was conducted at the Obstetrics and gynecology department of LUMHS, Hyderabad, Pakistan, from September 2016 to August 2017. All the women who developed perineal trauma during vaginal deliveries, age 18–40 years, singleton pregnancy, both primiparous and multiparous were included. After delivery, patients who had developed perineal tears were assessed for its severity and risk factors. Perineal tears were categorized as per severity in four categories All the data were collected via study proforma and for the analysis of data, the 26 versions of SPSS were employed.

Results: A total of 100 cases were studied in the study and most of the patients 45.0% were in the age group of 15–25 years. The average gestational age was 38.2±4.1 weeks. Primiparous cases were 65.0%. Un-booked women were 65.0%. 30.0% underwent mediolateral episiotomy and 19.0% with a midline cut extension. Most of the women 41.0% were delivered by NVD, followed by 26.0% by assist vaginal delivery and while 33.0% women underwent instrumental vaginal delivery. According to the birth weight the 40.0% babies weighing more than 2.5 kg. 40.0% females had a first-degree perineal tear, followed by 32.0 percent had a second-degree tear, 19.0 percent had third-degree tear, and 10.0 percent had a fourth-degree perineal tear.

Conclusion: Perineal trauma of 3rd and 4th degree were observed to be 19% and 10%, respectively. Maternal age less than 25 years, primiparity, un-booked status, use of the oxytocin, previous history of the vaginal surgeries and fetal weight >2.5 kg were observed the risk factors of the perineal tear.

Key words: NVD, Severity of perineal tears, risk factors.

INTRODUCTION

Vaginal delivery is a physiological process with numerous adverse risks. A common complication linked with vaginal birth is perineal trauma and vaginal laceration.¹ Around 5% of vaginal births are predicted to result in severe perineal laceration.¹ In the United Kingdom around 85% of the women during pregnancy experience some form of perineal trauma.^{2,3} Clinical diagnosis of obstetric anal sphincter injury (OASIS) with the 3rd and 4th degree perineal tear occurs in approximately 3% of females after their first pregnancy and 0.8 percent of the females who have at least one pregnancy.² Lacerations of the perineum, vagina, labia and cervix are common during the birth of a child. Usually, lacerations recover without causing long-term problems, but severe lacerations can cause long-term discomfort, sexual dysfunction, and discomfort.⁴ Because obstetric anal sphincter injuries (OASI) are the commonest reasons for anal incontinence in women, these tears deserve special attention.^{5,6} Tears of the 2nd degree alone may damage sexual performance and raise the likelihood of future prolapse of the pelvic organ, while large vaginal tears have been linked to an enhanced danger of levator muscle avulsion,^{5,7} although receiving less attention. However, little research work has been done on the occurrence and risk factors of these tears.⁵ Anal incontinence, rectovaginal fistula, and discomfort are all common complications of obstetric anal sphincter injury.⁸ The most unpleasant and severe of the OASIS consequences is anal incontinence. Flatus incontinence, passive soiling and incontinence of solid or liquid stool are all indications of anal incontinence.⁸ Characteristics of the mothers like age, parity and overweight during pregnancy; neonatal factors like birth weight; and obstetric or intrapartum factors like elevated gestational age, induction of labour, anaesthesia types, types of deliveries, including even instrumental deliveries are all risk factors for the development of 3rd and 4th degree tears.⁹⁻¹¹ A non-randomized trial from Sweden found that a comprehensive intervention involving spontaneous pushing, positions of the birth with flexibility of the sacroiliac joint, and a two-step head to body deliveries reduced significantly 2nd degree tears, although the findings have yet to be replicated.^{5,12} There is innovative therapies are required to avoid severe perineal injuries, and epidemiologic studies on risk factors for high vaginal and perineal

tears is one way to address such interventions.⁵ This study has been conducted to evaluate the severity of the perineal trauma and its risk factors among women developed perineal tears during vaginal delivery.

MATERIAL AND METHODS

This descriptive cross-sectional study was conducted at the obstetrics and gynecology department of LUMHS, Hyderabad, Pakistan, from September 2016 to August 2017. All the women who developed perineal trauma during vaginal deliveries, age 18–40 years, singleton pregnancy, both primiparous and multiparous were included. Females having pre-term labour, fetal breech presentation, ante-partum haemorrhage, and females who were referred for perineal tear management were excluded. Informed consent was obtained from all the cases. After delivery, patients who had developed perineal tears were assessed for its severity and risk factors. Perineal tears were categorized as per severity like perineal tear 1st degree defined as the small injury involved in 1st tissue layer around the vagina and area of the perineum, 2nd degree tear, was defined as the injury mildly bigger here, spreading deeper into the vaginal and perineal muscle tissue through the skin, 3rd degree was defined as injury-involved skin to perineal areas muscle tissues including damaged the muscle of the anal sphincter and 4th degree of perineal tear was defined as an injury severely extended from the vagina to the muscles of rectum through the muscles of the perineal area and muscles of the sphincter of the anus. All the data were collected via study proforma and for the analysis of data, the 26 versions of SPSS were employed.

RESULTS

A total of 100 cases were studied in the study and majority of the study subjects 45.0% were in 15–25 years of the age group, 35.0% females were in the age group of 26 to 35 years, and 20.0% had age group of 36 – 45 years. The average gestational age was 38.2±4.1 weeks. Primiparous cases were 65.0% and multiparous were 35.0%. Primary level-educated females were in majority 25.0%, while 20.0% women had females secondary level education, 15.0% women were graduates and 40.0% women were illiterate. Un-booked women were 65.0% of the total, while booked

women were only 35.0%. Of all 31.0% females had a history of vaginal surgery, 51.0% cases were delivered without episiotomy, whereas 30.0% underwent mediolateral episiotomy and 19.0% with a midline cut extension. Most of the women 41.0% were delivered by NVD, followed by 26.0% by assist vaginal delivery and while 33.0% women underwent instrumental vaginal delivery. The majority of the new-borns 50.0% were between the weights of less than 2.5 kg, followed by 40.0% weighing more than 2.5 kg and ten new-borns weighing less than 2.5 kg. Table.1

The most of the females 40.0% had a first-degree perineal tear, followed by 32.0 percent had a second-degree tear, 19.0 percent had third-degree tear, and 10.0% had a fourth-degree perineal tear. Table.2

Table.1 Showing demographic statistics of the cases n=100

Variables	Statistics		
Age groups	15-25 years	45	45.0%
	26-35 years	35	35.0%
	36-45 years	20	20.0%
Gestational age (weeks)	38.2±4.1		
Educational status	Primary	25	25.0%
	Secondary	20	20.0%
	Graduate	15	15.0%
	Uneducated	40	40.0%
Parity	Primigravida	65	65.0%
	Multigravida	35	35.0%
Booking status	Booked	35	35.0%
	Un-booked	65	65.0%
Oxytocin use	Yes	60	60.0%
	No	40	40.0%
Previous history of vaginal surgery	Yes	31	31.0%
	No	69	69.0%
Mode of delivery	NVD	41	41.0%
	Assisted vaginal delivery	26	26.0%
	Instrumental	33	33.0%
Episiotomy status	Non	51	51.0%
	Mediolateral	30	30.0%
	Midline extension of cut	19	19.0%
Fetal weight	<2.5 kg	10	10.0%
	2.5 kg	50	50.0%
	>2.5 kg	40	40.0%

Table.2 Severity of perineal injury n=100

Perineal tear	No. of cases	%
First degree	40	40.0%
Second degree	32	32.0%
Third degree	19	19.0%
Fourth degree	10	10.0%

DISCUSSION

Perineal injury is a common occurrence in the first labour, affecting up to 90% of primiparous women, and is linked to high post-natal morbidity and mortality at some time.¹³ In this study, a total of 100 cases were studied and most of the patients 45.0% were in the age group of 15–25 years, 35.0% females were in the age group of 26 to 35 years, and 20.0% were in the age group of 36 – 45 years and the average gestational age was 38.2±4.1 weeks. Consistently Ali M et al¹⁴ demonstrated that the mean age of their study subjects was 24.9±5.4 years. In the study of Jansson, MH et al⁵ reported that the average maternal age was 28.7±3.7 years, average BMI was 24.5±4.4 kg/m² and average gestational age was 40 ±1 weeks +3 days. On other hand Hoque AM et al¹⁵ demonstrated that their study participant's mean age was 24.67±5.89 years with age range of 13 to 47 years and majority of the cases 60% was belonged to 20–29 years age group.

In this study, primiparous cases were 65.0%, 40.0% women were illiterate, un-booked women were 65.0%, 31.0% females had a history of vaginal surgery. These findings were in the line of the study by Hoque AM et al¹⁵ as most of the women 73.1% ha parity 1–4, 73.3% cases had a history of previous vaginal deliveries. Consistently, Ali M et al¹⁴ reported that most of the study subjects 96.3% had a formal level education.

In this study 51.0% cases were delivered without episiotomy, whereas 30.0% underwent mediolateral episiotomy and 19.0% with a midline cut extension. In the study of Barca, JA et al⁹ reported that among 18,025 (59%) of the patients, episiotomy was conducted and they observed that the, episiotomy is a risk factor for 3rd and 4th degrees of vaginal tears. On other hand it is stated that when examining second-degree perineal injuries, the use of episiotomy presents a dilemma because episiotomy is technically a second-degree tear, although iatrogenic.⁵ Whereas an episiotomy appears to have the same complication rate and chronic illnesses like a spontaneous 2nd degree tear, a female who has one should be regarded to have at least the second perineal tear.^{5,17}

In this study most of the women 41.0% were delivered by NVD and while 33.0% women were undergone instrumental vaginal delivery. Barca JA et al⁹ reported that the 52.5 percent of the cases having severe tearing had an instrumental delivery, compared with 19.8% of cases having mild tearing. Instrumental interventions and third- and fourth-degree tears have also been linked to a high risk as per study. It is undeniable that the function of both forceps and spatulas, when used correctly, is to widen the delivery canal, with the risk of the pelvic floor injury, in intended to facilitate the foetus.⁹ In this study the most of the females 40.0% had a first-degree perineal tear, followed by 32.0 percent had second-degree tear, 19.0 percent had third-degree tear, and 10.0 percent had fourth-degree perineal tear. In the study of Hoque AM et al¹⁵ reported that the frequencies of 1st and 2nd degree of perineal injuries found 17.6% and 3.3 percent, correspondingly, across spontaneous perineal injuries and just few cases 0.2% experienced third-degree of perineal injuries, and none had fourth-degree perineal injuries.¹⁵ In this study the maternal age less than 25 years, primiparity, un-booked status, use of the oxytocin, previous history of the vaginal surgeries and fetal weight >2.5 kg were observed the risk factors of the perineal tear. On other hand reported that the primiparity, large fetal size, surgical vaginal birth, occiput posterior position, protracted second stage of labour, and horizontal position of the woman during delivery have all been recognized as risk factors.^{20,21} In the study of Smith LA et al² demonstrated that the planned hospital delivery, Nulliparity, epidural, ventouse uses, forceps uses, directed pushing, prolonged 2nd stage of labour, shoulder dystocia, episiotomy, and birthweight were all found to increase the chance of OASIS significantly. Low-income nations have insufficient data, particularly from midwife obstetric units where females give birth.¹⁵ As a result, it's critical to comprehend the scope, classification, and risk variables of perineal injuries in various contexts.¹⁵ Because of the study's limitations, such as the limited sample size and single-center approach, more large-scale multi-center investigations on this topic are advised.

CONCLUSION

In the study conclusion as per severity the third- and fourth-degree perineal trauma were observed to be 19% and 10%, respectively. Maternal age less than 25 years, primiparity, un-booked status, use of the oxytocin, previous history of the vaginal surgeries and fetal weight >2.5 kg were observed the risk factors of the perineal tear.

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