

Risk Factors in Genital Tract Trauma Following Vaginal Delivery

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ABSTRACT

Background: Genital tract trauma is a common outcome of vaginal birth, and can cause short-term and long-term problems for new mothers. Preventive measures have not been fully explicated.

Aim: To determine the frequency of risk factors causing genital tract trauma following vaginal delivery at Ibne Siena Hospital and Research Institute Multan as well as referral cases.

Methods: Total 180 women at term (37-41+6weeks) with singleton pregnancy, were selected. Women with multiple pregnancy, delivered by caesarean section, with antepartum hemorrhage and Chorioamnionitis were excluded. Labor was managed according to a standard protocol. Instrumental deliveries and episiotomies were performed where needed. Once the third stage of labor was over, vulva, vagina and cervix were examined for any tears or lacerations and managed accordingly.

Results: Mean age was 27.49±4.33 years. Mean gestational age was 39.43±2.28 weeks. Nulliparous women were recorded as 57.78% and 42.22% were multiparous. Frequency of risk factors causing genital tract trauma were recorded as follows; 12.22% had institutional place of labour while 87.78% had referral, 20.56% were primiparous while 79.44% were multiparous, 73.33% were delivered spontaneously, 26.67% had assisted mode of delivery, 70.56% had >4kg birth weight of baby and 29.44% had <4kg birth weight of the baby.

Conclusion: Higher frequency of risk factors causing genital tract trauma following vaginal delivery includes multiparous women, referral cases, spontaneous birth and birth weight>4 kg.

Keywords: Genital tract trauma, risk factors, frequency

INTRODUCTION

Genital tract trauma is defined as episiotomy and/or genital tract lacerations and is a complication in more than 50% of all vaginal births in the U.S¹. Studies have shown that genital tract trauma is highly prevalent even in developed countries with prevalent rate of upto 85% in some centres^{2,3}. Women who have spontaneous vaginal births and minimal or no genital tract trauma have the best health postpartum. Such women have fewest hospital readmissions for post delivery morbidity, less perineal pain, stronger pelvic floors, better sexual functions, less depression and optimum functional status⁴.

The different short term and long term morbidities which our women are suffering are in the form of perineal injuries of 3rd and 4th degree, cervical tears, uterine rupture, bladder injury, vesicovaginal fistula, rectovaginal fistula and anal sphinter injury⁵. Various risk factors reported by systemic review of 14 studies influencing genital tract injuries are nulliparity, mulyparity, cephalopelvic disproportion, malposition, labor induction, manipulation by unskilled birth attendants, prolonged labor, episiotomy, assisted vaginal delivery, instrumental delivery⁵ (forceps and vacuum extraction) and fetal macrosomia⁶.

Both child bearing women and health professionals place a high value for minimizing perineal trauma and reducing potential associated morbidity for mothers⁶. Genital tract trauma is also the cause of postpartum haemorrhage in 34% of cases. In Pakistan about 90-95% deliveries are conducted by traditional birth attendants, who provide some antenatal and intranatal care but postpartum care is virtually absent, so when women develops postpartum complications, they are brought to the hospital in a moribund state⁷. Although, the caesarean section obviate perineal trauma but it is associated with increased morbidity and mortality⁵.

Occurrence of obstetric perineal tears has almost disappeared in some parts of the world, but it is still common in our community as depicted in a study by high frequency of 9.9%. However some European and American studies have shown incidence of upto 25% and 16% respectively. A study found that more women had tears after spontaneous vaginal deliveries 52% than assisted deliveries (forceps and ventouse delivery) 22%⁸.

It was therefore decided to find out the risk factors leading to genital tract trauma. This study would help us to find out the magnitude of problem in local population of southern Punjab. This would also help us to plan strategies regarding prevention of genital tract trauma as well as patients counseling. There is also need for continuing education of junior

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doctors and Traditional Birth Attendants (TBA) to recognize abnormal labor or other risk factors that can lead to genital tract trauma⁸.

MATERIALS AND METHODS

This descriptive, cross-sectional study was done from January 2015 to December 2015, after approval from local ethical committee. Total 180 women at term (37-41+6 weeks) with singleton pregnancy either primiparous or multiparous Vertex presentation confirmed clinically by per vaginal examination, presented to the Department of Obstetrics & Gynaecology, Ibne Siena Hospital and Research Institute, Multan, were selected. Women with multiple pregnancy, delivered by caesarean section, with antepartum hemorrhage and Chorioamnionitis were excluded. Informed consent of women was taken. The case records of all women were evaluated thoroughly by mentioning variables like age, parity, address, labor characteristics including place of labor, mode of onset of labor (spontaneous or induced), labor duration, mode of delivery (spontaneous or assisted), any antenatal record, birth weight of baby and type of obstetrical injuries. All preliminary investigations like complete blood count, blood grouping and cross matching, Hepatitis profile and coagulation profile was done on all subjects on arrival. On arrival of patient at labor room, a detailed history was taken. Labor was managed according to a standard protocol. Instrumental deliveries and episiotomies were performed where needed. Once the third stage of labor was over, vulva, vagina and cervix were examined for any tears or lacerations and managed accordingly.

Data was analyzed using computer program SPSS 20. Descriptive statistics were used to analyze the data. Mean and standard deviation was calculated for quantitative variables. Frequencies and percentages were calculated for qualitative variables.

RESULTS

Mean age was 27.49±4.33 years (Table I). Mean gestational age was 39.43±2.28 weeks. Nulliparous women were recorded as 104(57.78%) and 76(42.22%) were multiparous. Mean parity was 1.43±0.84. Frequency of type of obstetrical injury was recorded as 41(22.78%) had cervical injury, 73(40.55%) had vaginal injury and 66(36.67%) had perineal injury.

Frequency of risk factors causing genital tract trauma were recorded as follows; 22(12.22%) had institutional place of labour while 158(87.78%), 37(20.56%) were primiparous while 143(79.44%)

were multiparous, 132(73.33%) were delivered spontaneously, 48(26.67%) had assisted mode of delivery, 127(70.56%) had >4kg birth weight of baby and 53(29.44%) had <4kg birth weight of the baby (Table II).

Table I: Age distribution (n=180).

Gestational Age (in weeks)	n
37-39	96(53.33%)
40-41	84(46.67%)
Total	180(100%)
Mean±sd	39.43±2.28

Table II: Frequency of risk factors causing genital tract trauma.

Risk factors	n
Place of labour	
Institutional	22(12.22%)
Referral	158(87.78%)
Parity	
Primiparous	37(20.56%)
Multiparous	143(79.44%)
Mode of delivery	
Spontaneous	132(73.33%)
Assisted	48(26.67%)
Birth weight of baby	
>4kg	127(70.56%)
<4kg	53(29.44%)

DISCUSSION

Genital tract trauma is a common outcome of vaginal birth, and can cause short-term and long-term problems for new mothers. Preventive measures have not been fully explicated. Midwives use a variety of hand maneuvers late in the second stage of labor, in the belief that genital trauma can be reduced. However, none of these care measures have been rigorously tested to determine if they are effective⁹.

In our study, frequency of risk factors causing genital tract trauma were recorded as 12.22% had institutional place of labour while 87.78% were referral, 20.56% were primiparous while 79.44% were multiparous, 73.33% were delivered spontaneously, 26.67% had assisted mode of delivery, 70.56% had >4kg birth weight of baby and 29.44% had <4kg birth weight of the baby. We find similar findings in a study conducted at Jamshoro where referred cases have highest risk of obstetrical injuries i.e., 84.79% and primiparous women has 13.5% risk of genital tract trauma⁵. In another study it is found that 37% of patients had genital tract trauma when weight of the baby was in range of 3.6-4kg and 19% of women had tears when weight of baby was 4kg or more⁸.

Other studies show most child bearing women sustain significant trauma with higher rates consistently noted in the first vaginal birth and with

instrumental delivery^{10,11}. This vast difference could be due to the different characteristics of referral cases like wrong decision about induction of labour, and birth attended by unskilled personnel. Uterine rupture was observed as the most frequent obstetrical injury in the multiparous and the grand multiparous women consistent with other studies¹²⁻¹⁴.

Thorp and co-workers restricted indications for episiotomy to fetal distress and planned operative delivery, and found a significant decline in major perineal trauma compared to more liberal use¹⁵. This was a prospective but non-randomized trial, and compares the experience of a single operator with other residents in his program. The confounders are obvious in that study¹⁶. A historic review of anal sphincter lacerations in one large delivery unit before and after implementation of a restrictive policy toward episiotomy performance had similar findings, with reduction in sphincter damage of approximately 50%¹⁷. This study used entirely historical controls. In a large database review, mediolateral episiotomy was found to protect the perineum from severe laceration, whereas midline episiotomy increased trauma substantially.¹⁸ A large review of operative vaginal deliveries also found midline episiotomy to have a higher and mediolateral a lower relative risk of severe trauma than no episiotomy at all¹⁸.

However, the above results are helpful to plan strategies regarding prevention of genital tract trauma as well as patients counseling. There is also need for continuing education of junior doctors and Traditional Birth Attendants (TBA) to recognize abnormal labor or other risk factors that can lead to genital tract trauma^{19,20}.

CONCLUSION

This study concluded that a higher frequency of risk factors causing genital tract trauma following vaginal delivery at Ibne Siena Hospital and Research Institute, Multan as well as referral cases includes multiparous women, referral cases, spontaneous birth and birth weight >4 kg, these findings are helpful to plan strategies regarding prevention of genital tract trauma as well as patients counseling.

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