



An Observational Prospective Study of Maternal Genital Tract Injuries during

KEYWORDS

Injury, tear, labour

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ABSTRACT

The present study was conducted in tertiary care teaching institute. It was a two years study from August 2010 to July 2012. This was carried out to find out the incidence and causes of various types of maternal genital tract injuries during vaginal birth in labour. A total of 2064 cases were analyzed, maternal injuries such as perineal tear and vulval lacerations, vaginal lacerations, cervical tears, Para-urethral tears, vulval hematoma were observed and documented. The overall incidence of maternal injuries in the present study was 255/2064 cases (12.35%).

Introduction:

Human childbirth is seldom completed without occurrence of at least a slight injury to the birth canal and, sometimes, even deep tearing may occur in spite of skill and care.

Slight abrasions and lacerations of the cervix, vagina, vulva and perineum are inevitable accompaniments of labour in all primigravidae and most Multipara.

The perineum is the most common seat of tear. The extent of tear often depends upon the care taken and skill displayed during delivery of head.¹

These injuries can also happen secondary to instrumentation or other factors; in addition with increased caesarean section we do predispose the mother to a possibility of injury at the primary surgery or later on during the secondary surgery or trial of labour in subsequent pregnancies.

Various injuries observed during labour are as under.

1. Perineal tears
2. Lacerations of vagina
3. Tears of the cervix
4. Vaginal and vulval hematomas.
5. Rupture of the uterus
6. Visceral injury

The present study has been conducted to observe the maternal genital tract injuries, the incidence of the same, to classify the type of injury and its possible cause and to assess the morbidity initially and to formulate the protocol for early identification and management of genital tract injuries. The early detection with prompt and effective management will not only minimize the maternal injuries but prevent many gynecological problems from developing later in the life. This study will also serve as a benchmark to assess the quality of maternal care provided and the areas that need improvement.

Aims And Objectives

Aim:

To observe the type, incidence and severity of maternal genital tract injuries occurring during vaginal delivery.

Objectives:

1. To record the various types of maternal genital tract injuries during vaginal delivery.
2. To assess the incidence of various types of maternal genital tract injuries.

3. To evaluate the probable cause for specific maternal genital tract injury if possible.
4. To assess morbidity due to these injuries.
5. To formulate a protocol for the early identification and management of genital tract injuries.

Material And Methods:

The present study was conducted in the labour room of Department of Obstetrics and Gynecology, Bharati Vidyapeeth Medical College, Bharati Hospital, Pune (Maharashtra). It was a prospective observational study conducted during the period

Inclusion Criteria:

All pregnant women in labour admitted to the labour room for vaginal delivery.

Exclusion Criteria:

Caesarean Sections

After admission to the labour room detailed history and thorough clinical and systemic examination is carried out and necessary investigations were done.

Following observations were made:

1. Type of delivery – Spontaneous / Instrumental.
2. Total duration of labour.
3. Episiotomy given or not.
4. Genital tract injury at any level was noted.

Sample Size:

Out of 2064 patients delivered vaginally in the labour room during the period of two years (August 2010-July 2012), 255 cases had perineal injuries and these were included in the study.

Observations:

In the present study, 2064 patients in labour were analyzed in the labour room of Department of Obstetrics and Gynecology, Bharati Vidyapeeth Medical College and Bharati Hospital Pune (Maharashtra).

Table 1: Mode Of Deliveries In Present Study

Mode of delivery	No. of cases	Percentage (%)
Total deliveries	2064	100
Normal vaginal delivery	1893	91.71
Breech delivery(Multiparous)	40	1.93
Twins-(4 were primiparous)	34	1.64
1.Vertex	29	1.4
2.Breech delivery	5	0.24
Vacuum Delivery	45	2.18
Forceps Delivery	15	0.72

Table 2: Distribution of Cases According To Parity

Total no. of cases	Parity	No. of cases	%age
2064	Primipara	926	44.86
	Multipara	1138	55.14

Table 3: Mode of Previous Delivery in The Multipara

No. of Multipara	Mode of previous delivery	No. of cases	%age
1138	Vaginal delivery	1086	95.43
	Caesarean section	52	4.56

Table 4: Incidence of Episiotomy in Primipara and Multipara Depending Upon the Mode of Delivery

Mode of delivery	Primipara		Multipara	
	No. of cases	Episiotomy (%)	No. of cases	Episiotomy (%)
Normal vaginal delivery	872	99.6	313	79
Breech delivery	0	0	38	95
Vacuum Delivery	36	100	9	100
Forceps delivery	11	100	4	100
Twins- 1. Normal vaginal delivery 2. Breech delivery	4 3 1	100	30 26 4	100
Total	923	100	394	100

Table 5: Association Of Parity And The Types Of Injuries

Type of maternal injury(255)	Primipara		Multipara	
	No. of cases (115)	Percentage (%)	No. of cases (140)	Percentage (%)
Vulval lacerations and Perineal tears	20	2.16	39	3.43
Vaginal lacerations	41	4.43	45	3.95
Cervical tears	30	3.24	25	2.20
Para-urethral tears	22	2.38	26	2.28
Vulval Hematoma	2	0.22	2	0.18
Rupture uterus	---	---	3	0.26

All the birth injuries were found to increase when episiotomy was not given.

It was also found that instrumental delivery is significantly more associated with maternal birth injuries as compared to vaginal deliveries.

Birth weight >3 kg is associated with more maternal birth injuries, in the form of vulval lacerations (69.5%), vaginal lacerations (84.8%), cervical tears (70.9%), para-urethral tears (62.5%) there was no difference in the incidence of vulval hematoma and birth weight.

A higher incidence of 2nd degree perineal tear was observed in multipara 0.77%. However parity was not observed to

influence the occurrence of 3rd degree tears. In Primipara there was 0.53% (n/926*100) of the total incidence of 2nd as well as 3rd degree perineal tears whereas in Multipara it was 1.58 % (n/1138*100) which is more and statistically significant.

Soft tissue injuries of genital tract as rupture uterus was seen more with cases of previous LSCS (3.8%) while the incidence of rupture uterus in unscarred uterus was significantly less (0.04%)

Discussion:

This study was carried out to find the incidence and causes of various types of maternal genital tract injuries during vaginal birth in labour. The overall incidence of maternal injuries in the present study was 255/2064 cases (12.35%).

The incidence of vulval lacerations and perineal tears in present study is 5.59% which is comparable to all other studies from 1990. Studies have shown incidence as high as 18.8% (Ola ER et al. 2002)² – 30% (Combs CA et al. 1990)³.

Incidence of cervical tear is 5.44% which is comparable to the studies of (Adhikari et al. 2005)⁴ but differs from the incidence of studies conducted by (Malik et al. 1997)⁵ who have comparatively lower incidence.

The incidence of rupture uterus in the various studies shows that its incidence ranges from 0.01 to 1.09%. Our study reports the overall incidence 0.26% which lies within the range of the above mentioned studies but less than the incidence of studies of Diab AE. (2005)⁶ and Chuni N. (2006)⁷. The incidence of rupture uterus was more in cases of previous caesarean section compared to vaginal deliveries.

Conclusion:

- The overall incidence of genital tract injuries in vaginal birth was 12.35%
- Majority of birth injuries were observed in patients who delivered without episiotomy.
- Birth wt >3kg is associated with more maternal birth injuries.
- Instrumental delivery is significantly associated with birth injuries hence proper and timely application of instruments should be done. Compared to vacuum, forceps has fewer incidences of birth injuries.
- VBAC is one of the risk factor for ruptured uterus. Hence meticulous labour monitoring should be done. In present study 2 patients underwent laparotomy with previous LSCS in view of ruptured uterus.
- Age less than 20 and more than 30 were observed to be associated with remarkably increased maternal injuries and can be considered as important risk factor.
- A woman without a scarred uterus can pose a risk for rupture thus mandating close vigilance during labour.

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