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# A Descriptive Type of Observational Study for the Effect of Episiotomy and Perineal Lacerations on Postpartum Urinary Retention after Vaginal Delivery

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**Original Research Article**

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**Abstract:** The Incidence of post-partum urinary retention (PPUR) is varies between .05% -37%. Episiotomy and Large perineal laceration causes tissue oedema around urogenital area, resulting in a transient mechanical obstruction to urine outflow. In this study 200 postpartum patients divided in to case and control group according to the postpartum residual bladder volume measured by sonography or not to void 6 hr after vaginal delivery. Episiotomy and perineal tear were associated with PPUR after vaginal delivery. The p value for Episiotomy was 0.044 and for large perineal laceration was 0.001 in both groups. In our study, Episiotomy and Large perineal Laceration was very Important causative factor for the occurrence of postpartum urinary retention after vaginal delivery. Awareness of risk factors may allow the obstetrician to prevent this complication. .To reduce morbidity resulting from this condition, bladder emptying must be documented in all women during labour and within the 6 hours following delivery or catheter removal. Inability to void must be treated promptly with catheterization, until the resolution of symptoms and adequate bladder emptying has occurred.

**Keywords:** Postpartum urinary retention, Epsiotomy, Perineal laceration.

## INTRODUCTION

Post-partum urinary retention is defined as the abrupt onset of aching or achless inability to completely micturate, requiring urinary catheterization over 12 hr after giving birth or not to void spontaneously within 6 hr of vaginal delivery [1].

Difficulty in emptying the bladder is due to dysfunction of effective detrusor contraction and/or urethral sphincter mechanism. Pregnancy and parturition has its own effect on the normal anatomy and physiology of the detrusor muscle of the bladder which causes changes in the storage and voiding function of bladder. Any etiological factors during labour, which may interfere with the normal mechanism of the micturation, may cause retention of urine in postpartum period after vaginal delivery. Incidence of post-partum urinary retention (PPUR) is varies between .05% -37% [2].

Postpartum urinary retention is classified in two types by Yip *et al.*, [3].Overt (symptomatic) retention women are unable to micturate spontaneously within 6 hr after vaginal delivery. Covert (assymptomatic) retention is defined as having a postvoid residual bladder volume (PVRBV) of more than 150 ml, detected by ultrasound or by catheterization, without symptoms of urinary retention. There are multiple risk factors responsible for PPUR, episiotomy, excessive perineal trauma are most important causative factor among them [4, 5].An awareness of these risk factors might prevent PPUR. Thus the aim of this study is to assess the effect of episiotomy and perineal laceration in PPUR in women who delivered vaginally.

## MATERIALS AND METHODS

### Selection of patients

### Inclusion criteria

- Patients aged 20- 40 yrs.
- All women delivered vaginally after uncomplicated pregnancy

### Exclusion criteria

- Urethral stricture
- Presence of cystocele or rectocele
- Renal and urinary bladder stone
- Any other pelvic injury and trauma
- Impaired muscle or nerve function due to medication
- Constipation

Pregnant women came to Obstetrics and Gynaecology. Department of SMS Medical College, Jaipur between December 2016 and April 2017. 200 consecutive women who delivered vaginally after uncomplicated pregnancies were included. Detailed history and clinical examination was done. Informed consent was taken. Immediately after the first

micturition in the postpartum period, all of the women were undergo a transabdominal ultrasound to estimate postvoid residual bladder volume (PVRBV). The transducer was located in the midline on the top of the symphysis pubis to obtain the longitudinal and transverse scan of the bladder. The widest diameter in the transverse scan in cm (D1), the anteroposterior diameter in longitudinal scan in cm (D2), and the cephalocaudal diameter in the longitudinal scan in cm (D3) was recorded. Estimated PVRBV will be calculated by using the formula D1×D2×D3×0.7 Women in whom the estimated PVRBV ≥150 mL or who was unable to micturate within 6 hours after vaginal delivery was defined as the cases. Women who had an estimated PVRBV<150 mL was defined as the controls. For all participants, effect of episiotomy and degree of perineal tear on PPUR was analyzed, Data was collected and statistical comparison was made between the case and control group.

## RESULTS

In the present study, PPUR after vaginal delivery was found as a relatively common occurrence, with an incidence of 7.9% (16/200). Among 200 consecutive women recruited in the present study, 16 women had PPUR, with an overall incidence of 7.9%. Among cases 4 women were symptomatic while 12 were asymptomatic. In the present study episiotomy was given in 13 (81.25%) cases and in 95(51.63%) patient of control group, p value .044.we found that episiotomy was a significant risk factor for PPUR. Present study reveal that majority of cases 9(56.25%) had perineal laceration than control 32 (17.39%),p value 0.001.This may be explain by the fact that pain caused by the repair of second or third degree perineal lacerations and episiotomy might result in reflex urethral spasm, and PPUR occurs subsequently.

**Table-1: Distribution of the case and control according to the Episiotomy given during Delivery**

| EPISIOTOMY | CASE | CONTROLS | P VALUE |
|---|---|---|---|
| YES | 13(81.25 %) | 95(51.63%) | 0.044 |
| NO | 3(18.75 %) | 89 (48.39%) | |
| **TOTAL** | **16** | **184** | **200** |

Above table shows that Episiotomy was given in 13(81.25%) cases and in 95 (51.63%) control, p value 0.044

**Table-2: Distribution of the case and control according to the Perineal Lacerations**

| Laceration | Case | Controls | P Value |
|---|---|---|---|
| YES | 09(56.25%) | 32(17.39%) | 0.001 |
| NO | 07(43.75%) | 152 (82.60%) | |
| **TOTAL** | **16** | **184** | **200** |

Above table shows that perineal lacerations was present 9(56.25%) cases and 32 (17.39%) in control.

## DISCUSSION

Postpartum voiding dysfunction may result from different proposed mechanisms such as tissue edema secondary to pressure on the pelvic floor, impaired detrusor function from bladder over distention, or detrusor dysfunction as a result of neuropraxia.

In our present study, PPUR after vaginal delivery was found as a relatively common occurrence, with an incidence of 7.9% (16/200). In the literature, the incidence of PPUR varies widely. But, the estimated incidence is likely to be more, since most cases often remain unforeseen. Overt retention is easily detected, while covert retention is identified only by ultrasound or by catheterization, since most women give no symptoms [6]. Despite the exact cause of PPVD having not been clearly determined, we propose that the mechanism that results in PPVD, based on the identified risk factors, might be secondary to a temporary mechanical outlet obstruction as a consequence of perineal edema, or it may be due to direct bladder trauma. Postpartum urinary retention can damage detrusor muscles and parasympathetic nerves of the bladder wall and change detrusor function.

## CONCLUSION

The data collected from our study suggested that episiotomy and perineal laceration are significant risk factor for the development of PPUR. Awareness of these risk factors may allow the obstetrician to prevent this complication. .To reduce morbidity resulting from this condition, bladder emptying must be documented in all women during labour and within the 6 hours following delivery or catheter removal. Inability to void must be treated promptly with catheterization, until the resolution of symptoms and adequate bladder emptying has occurred.

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