

Postpartum Voiding Dysfunction in Vaginal delivery

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ABSTRACT

The aim of this study was to determine the prevalence of postpartum voiding dysfunction in women who had a vaginal delivery. Routine investigations were used to assess the prevalence of postpartum urinary retention in women who had a vaginal birth and to classify the obstetric risk factors. In this report, 9.1% of women who had a vaginal delivery experienced postpartum urinary retention. The signs and symptoms of overt retention can be quickly identified. What is understood, though, is that close monitoring of postpartum patients and strict adherence to basic bladder treatment protocols will reduce the likelihood of irreversible bladder dysfunction. As a result, it is important to be mindful of the risk factors and risks associated with postpartum urinary retention.

Keywords: catheterization, awareness, urinary tract infections and rarely impaired renal function

1. INTRODUCTION

Postpartum urinary retention is described as an inability to void after childbirth due to a painful (usually) palpable or percussable bladder that necessitates catheterization. 1 to 3 The incidences are estimated to range from 0.5% to 37.0 percent. (3), (4) In the postpartum phase, there are two forms of urinary retention that may affect women. In the postpartum phase, urinary retention is likely to be multifactorial, including biochemical, neurological, and mechanical processes. Which will result in long-term voiding problems, chronic urinary tract infections, and, in extreme cases, renal impairment. (nine)

Since it's almost difficult to foresee which patients would have postpartum urinary leakage, all patients on the postpartum ward should be considered high-risk. The aim of this research was to ascertain the prevalence of postpartum urinary retention in women who had a regular vaginal delivery and the factors that contribute to postpartum urinary retention.(7)

2. MATERIAL AND METHODOLOGY

This is a prospective study carried out at SreeBalaji Medical college and Hospital, Chrompet attached to BIHER university.

Study population:

The study population was women who delivered vaginally from August 2016 to February 2018.

Selection of cases:

Cases selected in the study had to fulfil the following inclusion criteria.

INCLUSION CRITERIA:

- 1) Both primigravida and multigravida who delivered by natural labour.
- 2) Instrumental delivery:
Forceps delivery
Vacuum assisted delivery.

EXCLUSION CRITERIA:

- 1) Cesarean Section
- 2) Pregnancy with co-morbidities (Diabetes mellitus, Hypertension, Anaemia etc)
- 3) Twin delivery
- 4) Preterm delivery

3. RESULTS

Table 1: Number of patients list.

	No of patients	Percentage
Cases	20 (with PPUR)	9.1%
Controls	200 (without PPUR)	90.9%
Total	220	100%

Table 2: shows the PARITY

Cases	Primi	12	60%
	Multi	8	40%
Controls	Primi	110	55%
	Multi	90	45%

Table 3: DURATION OF SECOND STAGE OF LABOUR:

	Parity	Duration of 2 nd stage of labour	
		Prolonged	Not prolonged
cases	Primi	12(100%)	-
	Multi	6(75%)	2(25%)
Controls	Primi	30(27.3%)	80(72.7%)
	Multi	20(22.2%)	70(77.8%)

Table 4: shows the Perineal tear

Cases	14	70%
control	79	39.5%

Fig 1: INSTRUMENTAL DELIVERY:

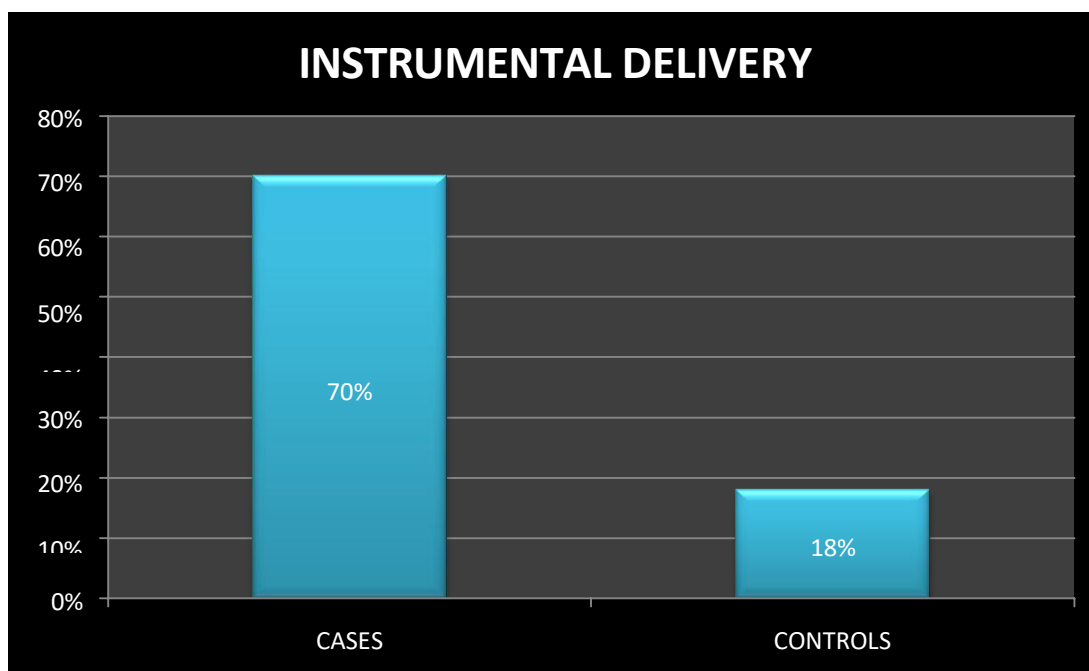


TABLE 5: Factors affecting the development of postpartum urinary retention (bivariate logistic regression)

	OR	CI	P
INSTRUMENTAL DELIVERY	5.542	1.9-16.2	<0.02
PERINEAL TEAR	2.142	0.705-6.507	.17
EPISIOTOMY	0.109	0.013-0.898	<0.01

In the current report, 20 (9.1%) of the 220 women enrolled had postpartum urinary retention, with 18 (90%) having covert retention (asymptomatic) and two (10%) having explicit retention. The remaining 200 patients (90.9%) served as monitors. Table 1 shows the features of deliveries for women with and without postpartum urinary retention. The Chi-square test revealed three variables (parity, instrumental delivery, perineal tear, and episiotomy), in which instrumental delivery, perineal tear, and episiotomy were statistically relevant ($p = 0.001$).

However, the mean birth weight of the child in cases was slightly higher than in controls (3.42 0.5 kilograms vs 2.940.48 kilograms, $p=0.01$), and the mean time of the second stage of labor in cases was significantly longer than in controls (111.4 43.01 minutes vs 67.56 33.36 minutes, $p0.01$). The difference in average age between women with and without postpartum urinary retention was not statistically meaningful (26.60 3.21 vs 26.03 3.09, $p= 0.7$). As a result, the INDEPENDENT “ T” measure is used to determine these three continuous variables (age, birth weight of the newborn, and duration of the second stage of labor). To find independent risk factors, a logistic regression analysis was carried out. We discovered that only instrumental delivery and episiotomy were substantially independent risk factors of postpartum urinary retention using the three major factors described by univariate studies (instrumental delivery, perineal tear, and episiotomy).

4.DISCUSSION

Postpartum urinary leakage following vaginal delivery was observed to be a reasonably normal condition in our research, with a 9.1% (20/220) rate. The prevalence of postpartum urinary retention differs greatly in the literature. However, since most cases are unpredictable, the predicted frequency is likely to be higher. The observed occurrence of overt (symptomatic) PUR ranged from 0% (Hée et al, 1992) to 11.4 percent (Ramsay(1) and Torbet, 1993) in studies involving women who had given birth vaginally (including instrumental birth). Six retrospective trials found a prevalence of 0.3 percent (Kekre et al, 2011) to 1.9 percent (Kekre et al, 2011). (Ajenifuja et al, 2013). The meanings of PUR used in each study were significantly different. The percentages in three observational experiments of broad sample sizes varied from 0.2 percent (Teo et al, 2007) to 0.8 percent (Pifarotti et al, 2014), with different meanings. Musselwhite et al. (2007) recorded a 4.7% occurrence rate in their retrospective analysis. In their retrospective research, Ching-Chung et al (2002), Yip et al (1997), and Burkhart et al (1965) found that the rate of PUR after vaginal delivery ranged from 4% to 4.9 percent. The meaning of

PUR was slightly different in both of them. In a survey conducted at the Tsan Yuk Hospital from April 1 to April 30, 1996, Lee et al.(8,9) found a 14.1 percent occurrence in 256 patients who had born vaginally. On post-delivery day 2, they described PUR as a residual urine volume greater than 200 mL. The rate of 9.1 percent found in this report is lower than that found by Lee et al., which may be attributed to differences in the definitions used. (10) We used 150 mL of liquid, while they used 200 mL. It may also be attributed to racial variations, as Lee et al registered a higher incidence of 5.8% post vaginal birth in their retrospective analysis in 1999, despite using different meanings of PUR. Since infected women are asymptomatic, overt retention is readily detectable by signs and symptoms. Covert retention, on the other hand, may only be detected by ultrasound or catheterization. (11) The average age of the women with PUR in this sample was close to that of the controls. There was no substantial link between age and postpartum urinary retention in this study, as there had been in others. Carley et al(5) found that PUR was more popular in primigravida than in multigravida ($P = 0.001$), and that primigravida had a higher rate of instrumental distribution than controls (47.1 percent vs 12.4 percent; $P = 0.001$). Episiotomy was also more common among primigravida ($P = 0.001$). PUR has been linked to nulliparity, which has been identified as a significant risk factor. Liang et al.(11) discovered that 78.1 percent of women with PUR were primigravida, compared to just 45 percent of women who had no retention. However, there was no connection between parity and PUR in the current study ($P = 0.81$). (12) In a retrospective analysis of 11,108 vaginal deliveries, Pifarotti et al(9) found that PPUR was detected in 105 women, with primi parity ($p = 0.001$), prolonged second stage of labor ($p = 0.03$), instrumental delivery ($p = 0.001$), and episiotomy (medio lateral- $p = 0.001$, midline episiotomy- $p = 0.03$) being important, and instrumental delivery was an independent risk factor using logistic regression. Instrumental distribution and episiotomy are the two independent risk factors that were found to be important by logistic regression analysis in our sample: (111. 443.01 in minutes vs 67.56 33.36 in minutes, $p = 0.01$), and instrumental delivery and episiotomy are the two independent risk factors that were found to be significant by logistic regression analysis in our study. (13) and (15)

Similarly, Kekre et al. (10) found that a longer labor (379 minutes in postpartum urinary retention patients) was associated with a higher frequency of PPUR. Mechanical strength applied to the pelvic muscle floor during the second stage of labour, combined with the increase in abdominal pressure associated with a macrosomic infant, can lead to pelvic and pudendal nerve injury, resulting in neurologic micturition dysfunction and, as a result, urinary retention. (16) and (17).

The mean time of labour among women with PUR was slightly longer than among women without PUR in the current study (111.443.01 minutes vs 67.56 33.36 minutes, $p = 0.01$). The findings of this research agree with those of SabriCavkaytar(18), who observed that a prolonged second stage of labor, the presence of an episiotomy, the presence of a perineal tear, and a birth weight of more than 4000 grams in the newborn are all separate risk factors for postpartum urinary retention. The same variables were shown to be important in our current research. Furthermore, in the current research, instrumental distribution was discovered to be an independent component.

5. CONCLUSION

Finally, in the event of a pause or misdiagnosis, postpartum urinary retention may result in permanent damage to bladder function. Bladder atony, which develops as a result of elevated progesterone levels during pregnancy and the early puerperium, may play a role in this damage. Longer second stage labor, an infant weighing more than 3.8 kg at birth, episiotomy, perineal tear, and instrumental delivery are all

important risk factors for postpartum urinary retention. What is understood, though, is that close monitoring of postpartum patients and strict adherence to basic bladder treatment protocols will reduce the likelihood of irreversible bladder dysfunction. As a result, it is important to be mindful of the risk factors and risks associated with postpartum urinary retention.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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