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## Case Report

# Persistent postpartum urinary retention following vaginal delivery: a rare complication in obstetrics practice

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## ABSTRACT

Postpartum urinary retention occurs in 10-15% of women and is likely to be multifactorial in origin. Long labour, epidural analgesia, instrumental delivery, nulliparity, significant vaginal and perineal laceration or a previous history of voiding difficulty are risk factors for altered voiding parameters. Previous literatures have defined two types of urinary retention, first, overt retention and the other covert variety. Overt variety represents the acute retention while covert variety is of subacute in nature. Being subacute in nature, it damages the detrusors slowly. Sometimes the damage is so much so that it may take substantial time to recover or may not recover at all and the patient may have lifelong detrusor hypotonia with persistent urinary retention, requiring lifelong intermittent self-catheterization. This badly affects her personal as well as social wellbeing and also poses her for recurrent urinary tract infection. Here, we report a case of 25 yrs old, 36 weeks primigravida having persistent postpartum urinary retention following vaginal delivery, Who was enough fortunate to have recovery of detrusors. But, still it took 3-4 weeks for complete recovery of the urinary bladder.

**Keywords:** Persistent postpartum urinary retention, Detrusor hypotonia, Indwelling catheter

## INTRODUCTION

Postpartum urinary retention (PUR) is not an uncommon condition. Despite its ubiquity, morbidity and discomfort brought to the postpartum women, it's a poorly discussed condition. Scientific publications on this topic are sparse. The reported incidence of PUR varies widely from 1.7%- 17.9% due to its varying definitions and different diagnostic criteria. Shah & Dasgupta advocated a simple definition, "inability to void urine within 6 hrs of delivery or LSCS or within 6 hrs of removal of indwelling catheter", either painless (where neurology is abnormal) or painful (where neurology is normal). But in many cases this may not be as simple as just non passage of urine within 6 hours of delivery, rather patient may go on passing some amount of urine in every void with a significant amount of residual urine, leading to gradual bladder distention.

This particular clinical condition may be explained by the descriptions made by Carley et al in 2002 & Rizvi et al in 2005 who described two varieties of urinary retention.

1. Overt retention- inability to void urine spontaneously within 6 hrs of vaginal birth or removal of indwelling catheter.
2. Covert retention- A clinically challenging situation with incomplete voiding of urine and significant post void residual volume of 150 ml or more causing gradual bladder distension and then over distention with no clear symptoms of urinary retention.

In this review this case is being presented here with the purpose to increase awareness about postpartum urinary

retention and its impact on maternal psychosocial wellbeing.

## CASE REPORT

A 25 year old, primigravida, 36 weeks pregnant patient came with chief complaint of watery discharge from vagina for 3-4 hours to the antenatal outdoor, Swarooprani Nehru hospital, Allahabad. Patient was under routine antenatal checkups since the beginning of her pregnancy and underwent all the recommended blood, urine investigations and ultrasonography as well. All the reports were normal.

In general examination, PR- 88/min, BP-120/70 mmHg. Systemic examination was also normal. On abdominal examination, fundal height was 36 weeks with longitudinal lie and cephalic presentation, head was 2/5<sup>th</sup> palpable, fetal heart sound was normal.

On speculum examination, premature rupture of membrane was confirmed. In vaginal examination, cervix was ripe with Bishop score 7, pelvis was adequate except borderline narrowing of subpubic angle with some increase in 'space of Morris'.

Doppler ultrasonography velocimetry and manning score was done that showed normal doppler waveform, EFWB -  $2.4 \pm 300$  g., AFI - 10 and Manning score - 10/10. As she had premature rupture of membrane, urine culture and sensitivity was specifically sent.

Though the pelvic outlet was borderline, a trial for vaginal delivery was planned considering average fetal weight, showed in ultrasound. Labour was induced with 50µg of oral misoprostol. Labour started after 4 hrs. Partograph was plotted. Labour progressed normally and she entered second stage after 8 hours. In spite of good uterine contractions and bearing down efforts of the patient, head was not being delivered, though it was at the pelvic outlet. As maternal and fetal conditions were good we were not panic. Finally the head was delivered with liberal episiotomy after one and half hour since 2nd stage started. Third stage was normal. Baby's apgar score was also normal. Antibiotics, pain killer, iron-folic acid and calcium tablets were given.

On post delivery visits she was absolutely normal. Here I want to mention specially that though i asked her about urine voiding, i did not emphasized on the stream and volume of urine voided, which we usually do not do. After 48 hours of delivery during early morning hours, patient had pain in abdomen. She complained it to the resident doctor on duty, who gave her diclofenac injection. Injection relieved her only a little bit. When i visited her, she was in agony and having severe pain in abdomen. She told that she has not passed urine since last night and even still not having any urge for it.

On examination a bladder lump corresponding to 28 weeks size gravid uterus was there. She was instructed to go to void urine. She refused as there was no urge to urinate. On insisting, she went for it but she failed to pass even a single drop of urine even on pressing the abdomen, splashing water on the vulva and in standing posture. There was no burning or pain at the urethral site.

Patient was immediately catheterised and approximately 1500 ml urine was drained out. Afterwards, she was advised to have plenty of water and encouraged to pass urine, but surprisingly again she failed and was not having even any urge to pass urine, rather she started having discomfort in the abdomen as bladder lump was again forming. Ultrasonography was done. Sonologist reported urinary bladder full with approximately 600 ml. of urine with no other abnormality.

At that time an indwelling catheter was put. By the time urine culture and sensitivity report came, that was sterile. After 72 hours, anticipating bladder recovery, her catheter was removed and she was said to pass urine. But unfortunately, the condition remained the same. All the efforts went in vain. The patient was too disheartened and anxious. We had to counsel her to alleviate her anxiety. In liaison with a Urologist, she was recatheterized, with an indwelling catheter. As per his advice, nitrofurantoin and alkalizer was prescribed and the catheter was kept in situ for 15 days. She was discharged with advice to come after 14 days for catheter removal.

The patient was very much puzzled and anxious. She kept on asking, what have happened to her? Vaginal delivery is supposed to be safer mode of delivery, how it complicated her? It was difficult for us to allay her anxiety and assure her that her urinary bladder will regain its tone as we were too not sure of the outcome. While going through the previous scientific literatures on the similar cases, we read a rare but scary complication of this particular condition, "permanent hypotonia of detrusor".

After 14 days catheter was removed, she was encouraged to void. Thankfully, she passed some urine but again had feeling of incomplete evacuation. Her post void urine volume was up to 80 ml. Though it was towards high side of normal range of residual urine we decided not to recatheterize her and sent her home with advice to have lukewarm sitz bath and pass urine frequently. She was called daily to check the residual urine. Gradually, residual urine amount decreased and it took up to 2 weeks to become nil.

Thankfully, she was enough fortunate to have timely bladder recovery.

## DISCUSSION

The reported incidence of postpartum urinary retention is 10-15% (yip et al 1997). Ching-Chung et al (2002) studied 114 women with post-partum urinary retention and

suggested that it is likely to be multifactorial involving physiological, neurological and mechanical processes. Long labour, use of epidural analgesia, instrumental delivery, nulliparity, and significant vaginal and perineal laceration or a previous history of voiding difficulty may be pose a risk for altered voiding parameters or urinary retention. Altered voiding parameters include decreased or absent sensation to void, slow or start-stop urine flow, small volume voids, feeling of incomplete bladder emptying, delay in voiding more than 6 hours following birth, requiring change of posture or some sensory stimulus (e.g. running tap water) to void. Normal frequency of micturition is up to 8 times in a 24 hour period. Considering postpartum diuresis, few extra voids in the first 24 - 48 hours after birth [with 80 % of the bladder volume being evacuated with each void and usual volumes being between 300 - 400 mL] may be allowed. Still, frequent urination should raise a suspicion of some bladder dysfunction and requires detailed assessment of the woman's voiding function. She should be asked about any hesitancy in starting urination, urinary stream, volume of void, any pain or burning at urethral site and feeling of complete evacuation of bladder. Yip et al (1997) categorized urinary retention in overt and covert variety. Women with 'covert retention' may not complain of anything till 2 or 3 days, when significant amount of urine has accumulated in the bladder to form a big bladder lump and to cause complete detrusor hypotonia leading to painless inability to pass urine. They found it to be self-limiting, despite having large initial bladder volumes up to 1,000ml. In accordance, Groutz et al (2001) also observed that persistent post-partum urinary retention was rare.

However, in clinical practice, covert urinary retention may go undetected, with a consequence of chronic voiding difficulties. Contradicting previous studies, Cardozo and Gleeson (1997) and Rizvi et al (2005) reported that a single episode of postpartum bladder overdistention, if not diagnosed and treated early, may lead to either delayed recovery of detrusors or even irreversible damage to the detrusor muscles leading to persistent urinary retention. That forces the women for lifelong intermittent self-catheterization. Shah and Vakalopoulos (2002) suggested that impaired bladder sensation and reduced detrusor contractility may be a result of over-distension of the bladder. But they added that if functional bladder capacities can vary between individuals, it is reasonable to suggest that their critical over-distension volume will also vary causing varied presentation.

In literatures, 'Persistent postpartum urinary retention' have been defined as inability to void urine spontaneously despite the use of an indwelling catheter for three days. As per the definition, above discussed patient was also a case of persistent postpartum urinary retention. She failed to void after removal of catheter after 3 days. It took a period of 3-4 weeks for complete bladder recovery. Sitz bath may had helped her by reducing urethral edema, resulting from prolonged catheterization.

From the literatures, two clinically significant facts in relation to post-partum urinary retention have emerged, firstly identification of the risk factors for voiding difficulty after childbirth. Second, over-distention due to delayed diagnosis can cause bladder injury and lead to persistent voiding difficulties (Cardozo and Gleeson; 1997, Rizvi et al 2005). To prevent the postpartum retention of urine, women should be encouraged to void every 2 hours in labour with a low threshold for catheterisation, then post delivery to facilitate normal voiding we should ensure adequate analgesia, hydration, ambulation and privacy. It becomes important to monitor her first few voids to ensure normal voiding function. We should aim to avoid detrusor over distension (>600 ml). Bladder dysfunction may have a bad impact on Mother and baby bonding too.

## CONCLUSION

Managing voiding difficulties following childbirth requires proactive management that is collaborative and recognises the potential psychological impact on the woman and her new baby.

## REFERENCES

1. Yip SK, Hin LY, Chung TKH. Effect of the duration of labor on postpartum postvoid residual bladder volume. *Gynecol Obstet Invest* 1998;45:177-80.
2. Ching-Chung L, Shuenn-Dhy C, Ling-Hong T, Ching-Chang H, Chao-Lun C, Po-Jen C. Postpartum urinary retention: assessment of contributing factors and long-term clinical impact. *Aust N Z J Obstet Gynaecol.* 2002 Oct;42(4):365-8.
3. Groutz A, Gordon D, Wolman I, Jaffa A, Kupferminc MJ, Lessing JB. Persistent postpartum urinary retention in contemporary obstetric practice. Definition, prevalence and clinical implications. *J Reprod Med* 2001;46:44-8.
4. Cardozo L, Gleeson C. Pregnancy, childbirth and continence. *British Journal of Midwifery* 1997;5:277-81.
5. Rizvi RM, Khan ZS, Khan Z. Diagnosis and management of postpartum urinary retention. *Int J Gynecol Obstet* 2005;91:71-2.
6. Carley ME, Carley JM, Vasdev G, Lesnick TG, Webb MJ, Ramin KD, et al. Factors that are associated with clinically overt postpartum urinary retention after vaginal delivery. *Am J Obstet Gynecol* 2002;187: 430-3.
7. Vakalopoulos I, Kampantais S, Dimopoulos P, Papastavros C. Treatment of obstructive uropathy in one of three young brothers suffering from Gorlin-Cohen syndrome: a case report. *BMC Urol* 2012;12:2.

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