



Original Article

Frequency of Cathetrization in the Management of Overt Postpartum Urinary Retention

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ABSTRACT

Urinary retention after postpartum can be defined as "inability of the patient to pass urine after six hours of postpartum. **Objective:** To determine the role of catheterization in patients with postpartum urinary retention. **Methods:** It was multicenter study. Patients from five different hospitals were included in the study. Duration of study was one and half years. Patients suffering from overt postpartum urinary retention who refused self intermittent catheterization were included in the study. **Results:** Total 68 patients were included in the study from five different teaching hospitals. In Social Security Teaching Hospital 13 patients, in Lady Wallingdon Hospital 32 patients, in Lahore General Hospital 13, in Ali Fatima Teaching Hospital 12 and in Central Park Hospital 8 patients were reported. The age of these patients was from 18 to 29 years with a mean age of 21 years (± 1.6). The duration of catheterization was from 3 to 18 days with mean days was 7 (± 1.8). **Conclusions:** In overt type of postpartum urinary retention, early treatment results in saving patients to develop long term urinary complications.

INTRODUCTION

Urinary retention after postpartum can be defined as inability of the patient to pass urine after six hours of postpartum [1-3]. In 1997, the postpartum urinary retention (PUR) was defined by its two types and since then we find these two types in literature. The two types are covert and overt postpartum urinary retention. The covert postpartum urinary retention is only diagnosed on ultrasound as usually patient has no symptoms while in overt type of urinary retention the patients are unable to pass urine after six hours of delivery or after removal of catheter [4]. If there is more than 150ml of residual urine either measured on ultrasound or measured after

catheterization, then it is considered clinically significant [4-7]. Clinically it is an important condition and if ignored can lead to increased morbidity and serious consequences [4-8]. In literature the incidence reported is from 0.5% to 37% worldwide [1,2,8]. The prevalence of these two types, overt and covert, varies a lot in literature. The prevalence of overt PUR is 0.3% to 4.7% while the prevalence of covert PUR is much higher that is up to 45% [1]. The pathophysiology of postpartum urinary retention is not exactly known till today. Likely it is multifactorial which includes neurological, mechanical and physiological phenomenon which occurs during postpartum period

[9,10]. It is very difficult to predict that which patient will suffer with postpartum urinary retention [11]. Considering this all patients present in maternity ward should be considered as high risk patients. The risk factors postpartum urinary retention is epidural analgesia, physiological changes during pregnancy, instrumental deliveries, perineal injuries, prolong labour, birth weight of baby more than 3800G and primary gravid [11]. The postpartum urinary retention can cause certain mild to severe complications including persistent urinary bladder distention, vesico urinary reflux leading to hydronephrosis and hence renal failure and sepsis leading to death. The long standing urinary retention can also cause recurrent attacks of urinary tract infections, haematuria, vesical calculus, irreversible damage to detrusor muscle and urinary incontinence [5,9]. Beside the serious consequences of postpartum urinary retention, it is strange that no guidelines for the management of PUR is available [2]. There are few studies published to optimize the management of this problem. As a result, all the currently available recommendations to manage postpartum urinary retention are not evidence based [2]. The lack of evidence results in different management plans in different institutions according to their social and economical conditions. The management starts with non invasive and non-pharmacological methods to induce urination. However, these methods are not effective in some patients. The role of drugs that is intramuscular injections of Neostigmine is 70% cure rate but patients don't prefer due to its side effects [10]. Regarding overt postpartum urinary retention, the treatment of choice is catheterization either intermittent self catheterization or indwelling Foleys catheterization.

METHODS

It was multicenter study which was conducted in Urology and Gynaecology and Obstetrics units of five different teaching hospitals of Lahore. The duration of study was one and half year, from 1st January 2021 to 30th June 2022. All the patients admitted or reported in emergency or OPD with overt postpartum urinary retention and they refused for intermittent self catheterization were included in the study. An ultrasound for residual urine was done to confirm that these patients were in urinary retention. Patients having more than 150ml of residual urine who could not pass urine after six hours of postpartum were labeled as overt urinary retention and included in the study. These patients were catheterized and after every 72 hours' catheter was removed and was asked to pass urine naturally. If patients did not pass urine in six hours, ultrasound was repeated to confirm residual urine more than 150ml. If patient was in urinary retention, then she was

again catheterized for next 72 hours. The time duration of 72 hours was adopted considering convenience of the patient. All the data were recorded on a performa and presented for statistical analysis. All the data were entered in SPSS version 23.0. The mean age, mean days of urinary retention and frequency of duration of retention was calculated.

RESULTS

Total 68 patients were included in the study from five different teaching hospitals. In Social Security Teaching Hospital 13 patients, in Lady Wallingdon Hospital 32 patients, in Lahore General Hospital 13, in Ali Fatimah Teaching Hospital 12 and in Central Park Hospital 8 patients were reported. The age of these patients was from 18 to 29 years with a mean age of 21 years (+ 1.6). Considering the age of patients 5 were 18 years old, 6 patients were 19 years old, 16 patients were 20 years old, 18 patients were 21 years old, 7 patients were 22 years old, 5 patients were 23 years old, 3 patients were 24 years old, 3 patients were 25 years old, 1 patient was 26 years old, 3 patients were 27 years old while 1 patient was 29-year-old as mentioned in table 1.

Age in Years	Total Number of Patients(%)
18	5 (7.35%)
19	6 (8.82%)
20	16 (23.53%)
21	18 (26.47%)
22	7 (10.29%)
23	5 (7.35%)
24	3 (4.41%)
25	3 (4.41%)
26	1 (1.47%)
27	3 (4.41%)
29	1 (1.47%)

Table 1: Age, Number and Frequencies of patients with PUR
The duration of catheterization was from 3 to 18 days with mean days was 7 (+ 1.8). The duration of catheterization after postpartum urinary retention was 3 days in 12 patients, 6 days for 31 patients, 9 days for 16 patients, 12 days for 5 patients, 15 days for 3 patients and 18 days for 1 patient also mentioned in table 2.

Days of Retention	Total Number of Patients (%)
3	12 (17.65%)
6	31 (45.6%)
9	16 (23.53%)
12	5 (7.35%)
15	3 (4.41%)
18	1 (1.47%)

Table 2: Duration of PUR, number of patients and their frequencies

DISCUSSION

The main objective of the management of postpartum

urinary retention is to save the patient from over distention of urinary bladder. This objective can be achieved by both self intermittent catheterization and use of indwelling catheterization. In PUR early catheterization will maintain normal physiology of urinary bladder and it will be beneficial as it saves the patient from future adverse effects and function of urinary bladder. Although self intermittent catheterization gives an early result but there is no significant difference between compliance of the patient and chances of developing urinary tract infections [2]. A comparative study, comparison of clean intermittent self catheterization (CIS) and transurethral indwelling catheterization in patients with postpartum urinary retention, stated that both procedures are equally acceptable for both groups. The CIS is cost effective and also needs some training of patient. Regarding outcome results, there was no difference between these groups [12]. Bacteriureia due to transurethral indwelling catheter is a common complication. It is established that the catheterization can increase the severity of bacterial infection either directly or by colonization. In some studies, it is mentioned that the risk of bacteriuria is more in patients with indwelling Foleys catheter (about 34%) but in our study no patient complained symptomatic bacteriuria [4]. In our study we showed that in women with postpartum urinary retention, and who refused for self intermittent catheterization, the use of indwelling catheterization also gave good results and these are comparable with self catheterization as mentioned in other studies. The acute distention of urinary bladder can cause significant impairment in functions of urinary bladder [5,13]. Considering these evidences, our hypothesis was that these patients have a greater risk of over distention of bladder which causes injury to detruser muscle resulting in longtime urinary problems [10,14,15]. Although, in our study, most of the patients recovered from postpartum urinary retention in 6 days but some needed longer follow up. It shows that after delivery the bladder is highly resilient and to some extent the residual volume can be part of normal postpartum physiology. The patients with overt postpartum urinary retention are symptomatic and needs treatment. If adequate treatment is not provided, it can result in long term urinary problems [16-19]. In last two decades, the incidence of overt postpartum urinary retention has been reported with a range of 0.14% to 9.85% [3,20,21]. This large difference is due to non consensus of a single definition and differences in inclusion criteria. Limitation of study was small sample size and its design (Non comparative). The result of this study can help in management plans of patients developing postpartum urinary retention when the patient refuses self intermittent catheterization.

CONCLUSIONS

In overt type of postpartum urinary retention, early treatment results in saving patients to develop long term urinary complications. Although self intermittent catheterization is a preferred procedure but indwelling catheterization also gives satisfactory results.

Conflicts of Interest

The authors declare no conflict of interest.

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