

COMPARISON OF IN-OUT AND OVERNIGHT CATHETERIZATION IN POST OPERATIVE URINARY RETENTION

Iftikhar Ahmad, Mohammad Nadeem

Combined Military Hospital Dera Nawab Sahib

ABSTRACT

Objective: To determine better modality of management of post operative urinary retention comparing in-out with overnight catheterization.

Study Design: Randomized controlled trail.

Place and Duration of Study: Combined Military Hospital, Lahore, tertiary care hospital from July 2007 to June 2008.

Patients and Methods: Sixty patients of postoperative urinary retention were recruited in the study in strict compliance with the inclusion and exclusion criteria. Informed verbal consent was taken. Patients were randomized using random number table into two equal groups. Group A was subjected to in-out catheterization modality. Group B was subjected to overnight catheterization modality. Procedure was carried out in complete privacy. Need to recatheterize the patient was assessed and then he was recatheterized accordingly. Frequency of recatheterization was calculated for each group.

Results: Frequency of recatheterization was significantly higher in group A as compared to group B ($p=0.022$).

Conclusion: Overnight catheterization is a better method for dealing with post operative urinary retention as compared to in-out catheterization.

Keywords: In-out catheterization, overnight catheterization, postoperative urinary retention, recatheterization.

INTRODUCTION

Post operative urinary retention is a common problem faced during early post operative period and manifests itself as inability to void urine even after 6-10 hours post operatively with a palpable urinary bladder¹. It is associated with risk of over-distention and permanent detrusor dysfunction² and results in prolonged hospital stays and loss of work hours³. Significant risk factors associated with urinary retention include old age, anorectal procedures, spinal anaesthesia⁴, gynaecological procedures⁵, orthopaedic procedures, extended time of surgery, extended anaesthesia time and previous history of voiding dysfunction⁶.

Perioperative fluid restriction and post operative pain relief are effective in decreasing incidence of post operative urinary retention^{7,8}. Post operative urinary retention can be treated by conservative methods like providing privacy to the patient, relaxation exercises and

mobilization. If these measures fail, only then the patient should be catheterized as a last resort.

Different modalities of catheterization include in-out catheterization and overnight catheterization for the management of postoperative urinary retention⁴. The most commonly used modality is overnight catheterization as compared to in-out catheterization. None of these strategies is perfect in terms of frequency of recatheterization⁹. Data is available favoring both types of strategies without reaching a final conclusion on superiority of either^{8,9}.

The purpose of the study was to find out the better modality of dealing with postoperative urinary retention out of the two commonly used methods i.e., in-out and overnight catheterization.

PATIENTS AND METHODS

This randomised controlled trial was carried out in the Combined Military Hospital, Lahore, which is a tertiary care hospital. The study was completed in one year from 1st July

Correspondence: Dr Iftikhar Ahmad, Surgical Department, CMH Dera Nawab Sahib
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2007 to 30th June 2008. Sixty patients with postoperative urinary retention were included according to inclusion criteria. Patients were randomly divided into two groups using random number tables. Group 'A' underwent in-out catheterization for postoperative urinary retention and group B underwent overnight catheterization.

Sample Selection:

➤ Inclusion Criteria

- Patients in the age range of 20-50 years.
- Male patients.
- Hernia repairs or perianal operations.
- Patients who received spinal anaesthesia
- Failed to pass urine after conservative measures to relieve retention.

➤ Exclusion Criteria

- Known urologic problems.
- Urinary incontinence.

Data Collection:

Patients were included in the study after approval by the hospital ethical committee and informed verbal consent from the patient was obtained.

Sixty patients recruited were randomized by coin toss method into two equal groups. Group A was subjected to in-out catheterization modality. Group B was subjected to overnight catheterization modality. Procedure was carried out in complete privacy. Need to recatheterize the patient was assessed and then was recatheterized in complete privacy. Frequency of recatheterization was calculated for each group.

Data analysis procedure:

Data analysis was carried out by SPSS version 10. Quantitative variables like age were presented by Mean and standard deviation (SD). Quantitative variable i.e., recatheterization for each group was presented in terms of frequency and percentage.

Chi square test was used to compare qualitative variables and independent samples t-test was applied for comparison of qualitative variables between both the groups. *p* value of less than 0.05 was taken as significant.

RESULTS

A total of 60 patients were included in this study that developed urinary retention and randomly divided in two groups of 30 each. In patients of group A, post operative urinary retention was managed by in out catheterization whereas in group B by overnight catheterization.

All of the sixty patients were male. The age of patients varied from 20 to 50 years. Mean age was 36.75 ± 5.9 years for group A and 34.50 ± 6.1 years for group B. Type of operation is shown in fig.

In group A recatheterization was done in 7 (23%) cases. While in group B only 1 (3.3%) patient required recatheterization ($p=0.022$) (Table).

Patients in both the groups recovered from post operative urinary retention without any complications. Patients were kept on postoperative antibiotics and analgesics and discharged between second and fourth postoperative day.

DISCUSSION

The study was conducted to compare two methods of managing postoperative urinary retention which included in-out catheterization and overnight catheterization. Their efficacy

Table: Chi square test for recatheterization (n=30 in each group)

Patients	Recatheterization		<i>p</i> -value
	Present	Absent	
Group A	7 (23.3%)	23 (76.7%)	0.022
Group B	1 (3.3%)	29 (96.7%)	

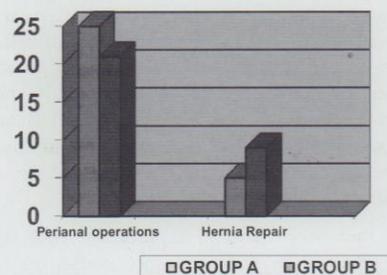


Figure: Group Wise distribution of Patients according to type of Operations

was judged by comparing the frequency of recatheterization after urinary retention was dealt with by either method. Patients who were managed by overnight catheterization needed recatheterization less often than those managed by in-out catheterization so declaring that overnight catheterization is better than in-out catheterization in the management of postoperative urinary retention. There are a number of studies conducted favouring either method of managing postoperative urinary retention.

Lua et al⁴ found no significant difference between in-out catheterization and overnight catheterization as far as recatheterization was concerned. Lua et al⁴ also found out that there is no significant difference between urinary tract infections among the two groups.

Griffiths¹⁰ and Fernandez¹¹⁻¹³ carried out a review of different randomized controlled trials that reviewed the management of urinary retention comparing overnight catheterization and short term catheterization and noted the frequency of recatheterization. They found that there is no significant difference between in out and overnight catheterization as far as recatheterization is concerned.

Cody¹⁴ found out that the incidence of postoperative urinary retention can be reduced by perioperative intravenous fluid restriction. They also found association of postoperative urinary retention with narcotic analgesia.

A study conducted by Tangtrakul et al¹⁵ on post caesarean section urinary retention and urinary tract infection, found no significant difference between incidence of urinary tract infection on both groups of catheterization. They found incidence of urinary retention after in-out catheterization to be significantly more than that in overnight catheterization and favoured overnight catheterization over in-out catheterization for management of postoperative urinary retention.

Emberton and Fitzpatrick¹⁶ has also conceded that there is no consensus on management of urinary retention as regards to type of catheterization, duration of

catheterization and management following catheterization is concerned.

Our study agrees with the findings of Tangtrakul et al¹⁵ that postoperative urinary retention should be managed with overnight catheterization. So according to this study overnight catheterization is recommended for the management of postoperative urinary retention.

Our study has its shortcoming in terms of data, which is qualitative and not quantitative. The objective of our study was to determine the better method of postoperative urinary retention. But as seen by other studies both methods are comparable.

CONCLUSION

There are a variety of methods of dealing with this complication. Our study has demonstrated that overnight method of catheterization is a better method of managing the postoperative urinary retention as compared to in-out catheterization.

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