



ARE INDWELLING FOLEY'S CATHETERS NECESSARY FOR TWENTY FOUR HOURS AFTER UNCOMPLICATED NDVH: A RANDOMISED CONTROLLED TRIAL

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ABSTRACT

A study was conducted to compare the need of indwelling foley's catheters necessary for twenty four hours after uncomplicated NDVH. This study was a randomized controlled trial comprised of 60 women who underwent NDVH. Patients were assigned randomly into 2 groups. The in-dwelling catheter was inserted in 30 women and in rest 30 women no catheter was introduced. There was no statistically significant difference between two study groups (with and without foley's catheter) with respect to demographic characteristics (mean age, weight, height, BMI, parity and previous cesarean section). There was no statistically significant difference with respect to intra-operative findings including size of uterus, indications of surgery, operating time, estimated blood loss and post-operative blood transfusion in both the study groups. UTI occurred in 7 patients in the in-dwelling catheter group compared with 2 patients in the without catheter group ($P = 0.145$). There was no significant difference with respect to symptomatic UTI in both the groups. Thirty percent (9/30) women in catheter group and 36.7% (11/30) women in no catheter group had positive urine culture on post operative day 2 (after NDVH), while 10% (3/30) women in catheter group and no woman in no catheter group had positive urine culture after 2 weeks of NDVH. There was no statistically significant difference with respect to post-operative urine culture on day 2 and after 2 weeks, with p value = 0.785 and 0.237 respectively.

Post-operative foley's catheter use in women undergoing NDVH offers no distinct advantage when compared with respect to symptomatic UTI and positive urine culture.

KEYWORDS : NDVH, UTI.

INTRODUCTION

Hysterectomy is one of the most commonly performed surgeries in gynecology worldwide.¹ Nowadays a spectrum of approaches available for performing hysterectomy e.g. abdominal, vaginal, and laparoscopic or combination of these.² In recent times, there has been clear evidence in the favor of vaginal route over abdominal and laparoscopic route of hysterectomy. To prevent iatrogenic injury to the bladder, foley's catheter was placed in all women undergoing hysterectomy.³ However, there is limited support for the use of foley's catheters for the first 24 hours after routine hysterectomy.⁴ Duration of post-operative foley's catheter generally based on custom rather than strong published evidence. Although several trials addressed the issue of the duration of catheterization after surgery, there was not enough evidence to show that any policy was better than another.⁵ Hence the present study is conducted to assess the potential differences in post-operative outcomes of women planned for NDVH with or without indwelling foley's catheter.

MATERIAL AND METHODS

This randomized controlled study was conducted in the Department of Obstetrics and Gynecology at Dr. Rajendra Prasad Government Medical College and Hospital, Kangra at Tanda, H.P. After taking informed consent sixty women undergoing NDVH, were recruited in the study provided they fulfill following criteria:

Inclusion Criteria

- NDVH for benign gynecological indications
- Vaginal hysterectomy with no obvious pelvic organ prolapse (POP) or stage 1 POP

Exclusion Criteria

- Vaginal hysterectomy for POP
- Suspected malignancy
- Diagnosis suspicious for endometriosis
- Large tubo-ovarian abscess
- Ovarian cysts
- Previous pelvic surgery by abdominal approach

After careful assessment by senior consultant, all women planned for NDVH (as per standard indications) were enrolled for recruitment in the study after taking informed consent. A total of sixty women were randomized on the basis of computer generated random numbers table to either of the two groups:

Group 1- A total of thirty women were randomized to this group and indwelling foley's catheter was inserted for 24 hours post-operatively.

Group 2- A total of thirty women were randomized to this group and no indwelling catheter was inserted post-operatively.

All women in the study received single dose pre-operative antibiotic prophylaxis thirty minute before surgery consisting of cefazolin 1gm intravenously after test dose (ATD). Those women allergic to cefazolin received injection azithromycin 1gm intravenously ATD.

"Positive urine culture" was determined by quantitative urine culture yielding $\geq 10^5$ colony forming units of an identified single uropathogen per ml.

"Symptomatic urinary tract infection" was diagnosed on the basis of following criteria:

- Significant bacteriuria (determined by quantitative urine culture yielding $\geq 10^5$ colony-forming units of an identified single uropathogen per milliliter) accompanied by
- At least one of the following symptoms:
 - a. Dysuria
 - b. Increased frequency of urination
 - c. Urinary urgency
 - d. Suprapubic pain
 - e. Burning on micturition
 - f. Onset or aggravation of urinary incontinence.

RESULTS

There was no statistically significant difference between two study groups (with and without foley's catheter) with respect to demographic characteristics (mean age, weight, height, BMI, parity and previous cesarean section). There was no

statistically significant difference with respect to intra-operative findings including size of uterus, indications of surgery, operating time, estimated blood loss and post-operative blood transfusion in both the study groups.

The most common indication of surgery was AUB-L (n=42/60), followed by AUB-O (n=17/60). There was no intra-operative complication in any women in the study groups.

Symptomatic UTI

In group 1, 23.3% (7/30) and in group 2, 6.7% (2/30) women had symptomatic UTI on post operative day 2 of NDVH. There was no statistically significant difference with respect to symptomatic UTI in both the groups (p value =0.145). No woman in both the groups had symptomatic UTI after 2 weeks of NDVH.

Table 1: Symptomatic UTI in study group

	Group 1 (n=30)	Group 2 (n=30)	p value
Symptomatic UTI [#] (Day 2) (n)	7	2	0.145

[#]Data expressed as frequency

Post-operative urine culture

Thirty percent (9/30) women in group 1 and 36.7% (11/30) women in group 2 had positive urine culture on post operative day 2 (after NDVH), while 10% (3/30) women in group 1 and no woman in group 2 had positive urine culture after 2 weeks of NDVH. There was no statistically significant difference with respect to post-operative urine culture on day 2 and after 2 weeks, with p value = 0.785 and 0.237 respectively.

Table 2: Post-operative urine culture of women after NDVH

Post-operative urine culture	Group 1 (n=30)	Group 2 (n=30)	p value
• Day 2 [#] (n)	9	11	0.785
• After 2 weeks [#] (n)	3	-	0.237

[#]Data expressed as frequency

DISCUSSION

Post-operative foley's catheter use after major uncomplicated gynecologic surgery has been the standard method of practice. It has been presumed that post-operative foley's catheter after NDVH is associated with symptomatic UTI. We observed no statistically significant difference with respect to symptomatic UTI in both the study groups (p = 0.145).

Our results are similar to those observed by Dunn et al.⁶ (p = 0.193) and Alessandri et al.⁷ (p = 0.990).

Foley's catheterization is presumed to be associated with symptomatic UTI theoretically. However, available literature shows that catheter use is associated with increased bacteriuria which may not always progress to symptoms. Hence we can safely suggest that there is no significant difference with respect to symptomatic UTI in women with and without foley's catheter use post-operatively after NDVH.

Our observations show no statistically significant difference with respect to post-operative urine culture on day two and two weeks of NDVH, in both the study groups (p = 0.785 and 0.237 respectively).

Our results are in contrast to available literature.^{8,9} Foley's catheter has been found to be associated with increased chance of UTI. Urinary catheterization increases the risk of infection by 5% to 10% per day of use.

Our findings are contrary to available literature. We used metallic catheter for urinary bladder drainage three times during surgery i.e. before starting the surgery, after delivery of

uterus and after completion of surgery. This repeated metallic catheter insertion might have confounded the occurrence of bacteriuria as metallic catheter might cause microscopic mucosal abrasion predisposing to bacterial colonisation.

CONCLUSION

Post-operative use of foley's catheter offers no advantage in women undergoing NDVH. This suggest that use of foley's catheter for 24 hours post-operatively appears unnecessary for anticipated patient comfort, monitoring urine output or surgeon convenience in uncomplicated NDVH.

We discourage the practice of routine post-operative foley's catheter after uncomplicated NDVH.

Abbreviations: NDVH: non descent vaginal hysterectomy

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