

A Simple New Method to Retrieve the Impacted Balloon Catheter: A Clinical Study

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Abstract

Introduction: A urinary catheter is any tube system placed in the body to drain and collect urine from the bladder. Urinary catheters are sometimes recommended as a way to manage urinary incontinence and urinary retention in both men and women. There are different types of catheters, which may be used for a variety of different reasons, either for use of a catheter for short-term use or long-term use. Long-term use catheters are called indwelling catheters. We are using past 24 years with the devised technique for retrieving the impacted balloon catheter either per urethral or suprapubic. It is simple, easy, and does not require any equipment or operation theater. It is bedside procedure.

Purpose: The retained and impacted Foley's catheter, which are failed to remove by other methods can be removed with a simpler technique.

Methods: Various methods are available to remove retained Foley's catheters. We have done a randomized prospective study of retained Foley's catheters removal. We simply insert ureteric catheter stylette or wire which is introduced into the channel of balloon inflation. By this water leaks out and catheter comes out. We have done hundreds of cases past 24 years in a government hospital in bedside as well in the outpatient department. No complication or failure occurred.

Results: The results are excellent with this technique for removal retained Foley's catheters, and it is simple to do the procedure.

Conclusion: This method is simple, safe, inexpensive, and can be carried out without anesthesia ultrasound facilities and radiological facilities are not available. We are using this method over past 24 years with 100% success and without any complications.

Key words: Foley's catheter, Impacted balloon, Retrieving impacted catheter and suprapubic catheters

INTRODUCTION

Catheters come in a large variety of sizes, materials (latex, silicone, Teflon), and types (Foley catheter, straight catheter, and coude tip catheter). For example, a Foley catheter is a soft plastic or rubber tube that is inserted into the bladder to drain the urine.¹⁻³

Foley's catheter is the most commonly used a self-retaining catheter. The problem of impaction of the Foley catheter

(local made) is commonly encountered in day to day clinical practice. Most of the times cases are referred to the outpatient department or bedside calls for this problem. Most of the times catheter is cut short just distal to the external meatus.^{4,5}

Various conventional methods available at the present results in failure of 40% cases. The techniques available are:

1. Ether technique - Banned due to ether chemical pyelitis
2. Over filling and rapture of balloon - Banned due to residual balloon pieces in bladder and rarely rupture bladder
3. Suprapubic puncture of balloon blindly or ultrasound guided
4. Per rectal palpation of balloon and puncturing with needle

Access this article online



www.ijss-sn.com

Month of Submission : 09-2015
Month of Peer Review : 09-2015
Month of Acceptance : 09-2015
Month of Publishing : 10-2015

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5. Catheter telescopicy for retrieval of impacted catheter
6. Suprapubic cystostomy as the last resort to retrieve the catheter.

We have devised a technique using past 24 years, tried on hundreds of patients for impacted balloon catheters. It doesn't require any extra equipment.

METHODS

The patient is kept in supine position. After aseptic precaution, the procedure is followed to remove retained Foley's catheter.

Technique

The Foleys catheter made up of latex material. To inflate the balloon water is injected into the luer lock of a side channel of the catheter. The catheter gets stuck when the latex particle acts like ball valve system and does not allow water to be withdrawn Figure 1.

We simply insert ureteric catheter stylette or wire which is introduced into the channel of balloon inflation (Foley's catheter is already cut). Slowly, water of balloon drains out beside the stylette. Within few minutes, catheter gets deflated and can be removed Figures 2 and 3.

RESULTS

Experts recommend that the smallest possible catheter is used. Some people may require larger catheters to control leakage of urine around the catheter, or if the urine is thick and bloody or contains large amounts of sediment.

Catheter placement details

Retained suprapubic catheters	10% cases
Retained per urethral catheters	90% cases

We have done hundreds of cases without any failure with this technique. We have not included the calcified catheters stuck in this study.

Male and female ratio

Males	87% cases
Females	13% cases

Age of occurrence of retained Foley's catheter

0-10	3% cases
10-20	16% cases
20-30	19% cases
30-40	13% cases
40-50	15% cases
50-60	27% cases
Above 60 years	7% cases



Figure 1: Stuck Foley's catheter *in situ*



Figure 2: Styllette *in situ* with water being drained

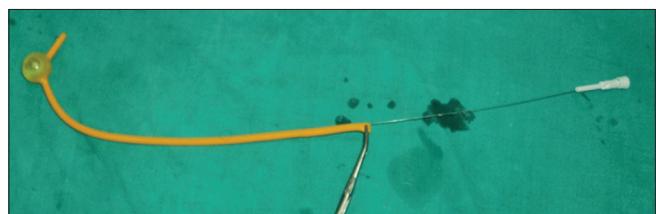


Figure 3: Demo *vitro* photo

DISCUSSION

Using ether by injecting into the balloon channel will blasting the balloon and sometimes pieces of the catheter are left behind, and they act as a nidus for calculus formation. By puncturing the bulb under ultrasound guidance suprapubically is painful. A rectally using gloved finger guidance in the lithotomy position with needle puncture of the balloon is inconvenient. Failing various methods people have rarely had done through open suprapubic surgery.

The technique used by us is simple and does not require any expertise and reproducible results. In this aspect, our technique is very superior.

We should be aware that larger catheters are more likely to cause damage to the urethra. Using large catheters can cause urethra ulcerations, sinus formation, and urethra fistula formation; some people have developed allergies or sensitivity to latex after long-term latex catheter use. These people should use the silicone or Teflon catheters. Long-term urethral Catheters means a catheter that is left in place for a period of time may be attached to a drainage bag to collect the urine.⁵⁻⁷

Most experts advise against routine changing (replacing) of the catheters once in 3-4 weeks. If the catheter is clogged, painful, or infected it may require immediate replacement.^{8,9}

There are potential complications like fever, chills, foul smelling urine, balanitis, bleeding into or around the catheter; catheter is not draining or leakage of large amounts of urine can occur during prolonged catheterisation.^{10,11}

CONCLUSION

We are using this method over past 24 years with 100% success and without any complications. Using ureteric catheter stylette or wire for deflating balloon does not

require in this special expertise. This technique is simple to follow and to learn.

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How to cite this article: Babu BS, Haritha B, Daasardhi B, Ramana BR. A Simple New Method to Retrieve the Impacted Balloon Catheter: A Clinical Study. Int J Sci Stud 2015;3(7):251-253.

Source of Support: Nil, **Conflict of Interest:** None declared.