

**A case report on correction of urethral obstruction in a male cat  
through catheterization**



**A clinical report submitted in partial satisfaction of the requirement for the  
fulfillment of the degree of Doctor of Veterinary Medicine (DVM)**

**Clinical Report Submitted by**

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# **A case report on correction of urethral obstruction in a male cat through catheterization**



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## List of acronyms and symbols used

<b>Abbreviation</b>	<b>Elaboration</b>
%	Percentage
et al.	And his association
UO	Urethral obstruction
CVASU	Chattogram Veterinary and Animal Sciences University

## **Abstract**

Urethral obstruction is commonly occurred in male cat due to their relatively long and narrow urethra. The purpose of the present case report was to describe a clinical approach to correct urethral obstruction in a cat, which is known as blocked cat. An 8-year-old Persian cat was presented to Teaching and Training Pet Hospital and Research Center (TTPHRC) with a history of anuria for 2 days. On physical examination, blockage of penile urethra and abdominal distention were identified whereas all other parameters of cat were normal. Based on the clinical examination, it was decided to insert catheter through penile urethra upon stabilization of patient. The preputial area prepared for aseptic catheterization. Tom catheter soaked with 2% Jasocaine jelly was inserted into the penile urethra and blockage of urethra was broken down. As a part of post-operative care fluid therapy, antibiotic, calcium, urinary alkalizer and steroid drugs were prescribed. No complication was noted in post-operative management.

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**Key words: Urethral obstruction, Tom catheter, Jasocaine, Post-operative care**

## Introduction

Urethral obstruction (UO) is a common and sometimes fatal complication of feline lower urinary tract diseases. It has been widely accepted that the urethral lumen obstruction is caused by the presence of a physical obstacle, such as a calculus or urethral plug (or, less frequently, stricture or neoplasia). Feline idiopathic diseases (feline idiopathic cystitis), urethral stricture, anatomic malformation, and foreign bodies are less common lower urinary tract diseases than urolithiasis, urinary tract infections, and urethral obstruction (Lekcharoensuk et al., 2001). Previous etiological studies supporting this finding reported urethral plug evidence in 60%, urethral calculi in 20%, stricture or neoplasia with <5% combined, and no evident physical blockage in the remaining patients (Bartges et al., 1996). Many studies have identified risk factors for feline lower urinary tract diseases; however, there is little information available in the veterinary literature about risk factors for urethral obstruction (Jones et al 1997). Due to the relatively long and narrow urethra of male cats, urethral obstruction is reported to occur frequently in male cats and almost exclusively in cats (Lee et al 2003). Urinary bladder inflammation is thought to encourage urine protein leakage, which then combines with urine crystals to form a urethral plug and raises the possibility of urethral obstruction (Osborne et al 1996). The diagnostic approach includes a problem-specific history and a physical examination that includes a neurological evaluation (concentrating on tail and anal tone, perineal sensation, and hindlimb function). Furthermore, it is crucial to watch the animal void in order to assess the animal's posture. Since urolithiasis in cats is rather prevalent, imaging using survey radiography is advised in all instances. When it comes to identifying tiny uroliths or soft tissue masses in the urinary tract, ultrasonography may be more sensitive. A variety of aspects of managing a UO are thought to be universal, and they usually involve post obstructive care, catheterization to relieve the UO, and initial stabilization of life-threatening electrolyte, metabolic, and cardiovascular derangements. On the other hand, there are a variety of contrasting viewpoints or fallacies regarding the best course of care for urethral obstruction.

**The study's goal was to conduct a diagnostic evaluation, definitive treatment to remove the urethral obstruction by catheterization, as well tracking the outcome of treatment in a cat.**

## Case presentation

An 8-year-old Persian cat weighing 3.7 kg was brought to the Teaching and Training Pet Hospital and Research Center (TTPHRC) with history of no urination. Clinical examination of the animal exhibited normal temperature, respiration and pulse rate. The behavior of the animal was normal and appetite was satisfactory. The owner of cat noted that cat did not urinate for 2 days. On physical examination revealed that urinary bladder is full with urine and painful for patient. Then it was decided to catheterization of cat to break the blockage of penile urethra. A urinalysis is recommended to rule out iatrogenic or secondary UTI. The result of urine strip test was Leucocytes-70 cells / $\mu$ L, PH-6, Specific gravity -1.030, Nitrate-500, Urobilirubin- 16 $\mu$ mol/L, Protein- 8g/L, Ketone body- 1.5mmol/L, Bilirubin-50  $\mu$ mol/L and Glucose-Negative (Figure 1A, 1B). On Giemsa stain of urine found more red blood cell in urine (Figure 1C).

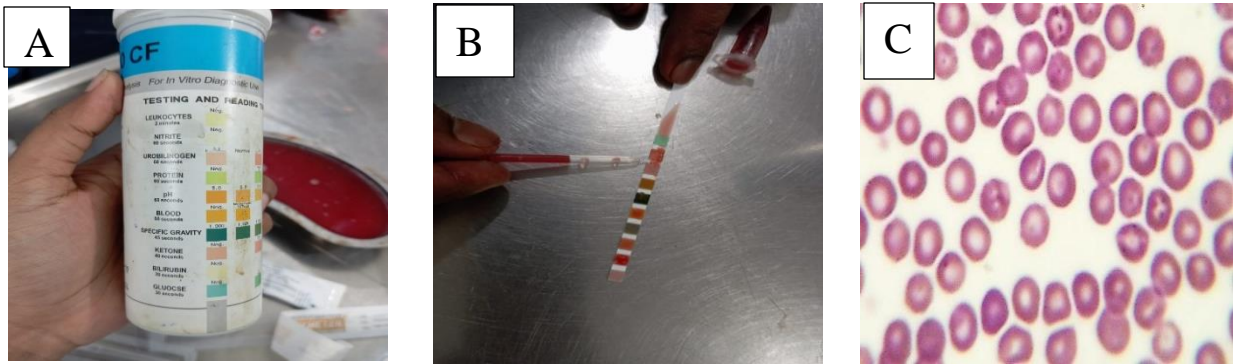


Figure 1: Urine strip test parameter (A), Urine test strip (B), Giemsa stain of urine(C)

## Procedure of correction of urethral obstruction

Gently restrained the patients and penis was exposed through hand pressure. After detection the penile urethra manually, some hard calculi like materials were seen. 2% Jasocaine jelly was used for local anesthesia and then a tom catheter was inserted into the lumen of urethra (Figure 2A). Flashing of the penile urethra was done by saline water and blood containing urine expelled out (Figure 2B). Flashing was continued until the clear urine came out (Figure 2C). Once the urine became clear and rechecked blood flow and removed the catheter from penile urethra.

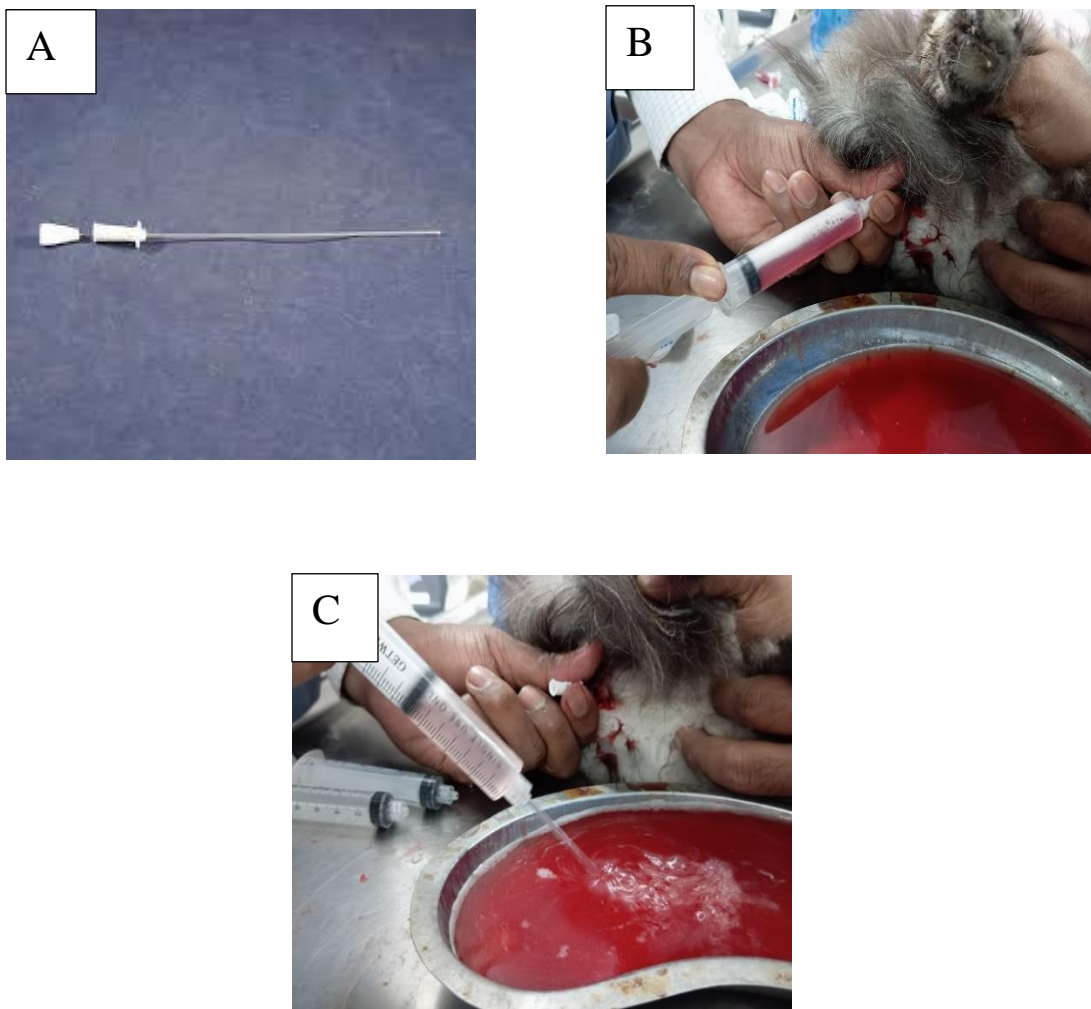


Figure 2: Tom catheter (A), flashing the penile urethra by saline water and expelled out bloody urine (B), clear urine from urinary bladder (C).



## Post-operative care

Dextrose 5% saline was used intravenously for 7 days and calcium preparation used to reduce hyperkalemia s/c just for one day. Antibiotic ceftriaxone was used @50mg/ kg body weight intramuscularly for 7 days. Steroid drugs, urinary alkalizer and haemostatic drugs were also used to manage the urethral obstruction (Figure 3).



Figure 3: Post-operative administration of drugs and saline

## Discussion

The present study describes the treatment of urethral obstruction in an 8-year-old Persian male cat who had anuria, dribbling, a bloated abdomen, discomfort, and other symptoms for two days. The clinical sign shared by the current and earlier reported cases. As there was a high danger of cystitis during cystocentesis, this problem was successfully resolved with catheterization. Feline urethral obstruction (FUO) is a common but treatable medical emergency (Hetrick and Davidow, 2013). Indoor cats are thought to be more prone to generate urine crystals that could eventually form urethral plugs since they are less active and probably urinate less frequently (Houston et al, 2003). Male neutered cats tend to make up the majority of the cases, due to their long and narrow urethras (Brace et al, 2014). The most common predisposing cause of FUO is idiopathic cystitis (IC) (Balakrishnan and Drobatz 2013). Severely affected patients often present with hyperkalaemia, post renal azotaemia, metabolic acidosis, hypocalcaemia, dehydration and hypovolaemia, which if left untreated can progress to cardiovascular compromise (Drobatz and Cole, 2008). As a result, treatment consists of correcting electrolyte imbalances, appropriate analgesic regimens, removing or relieving the obstruction and post catheterisation management (Balakrishnan and Drobatz 2013). Although its usage is controversial, decompressive cystocentesis is an additional treatment option to consider in the early phases of urethral obstruction treatment. The use of a cystocentesis before catheter insertion has several possible advantages (Kruger et al., 1996). In cases where transurethral catheterization fails to relieve urinary blockage in animals, decompressive cystocentesis is recommended as a therapeutic measure. It lessens the pressure on the bladder wall, minimizing rupture, and making the process of catheterization easier. It also makes it easier for urethral plugs or urethroliths to retropel (Specht et al, 2002). Through this process, the pressure inside the urinary system can be immediately released, and glomerular filtration can resume more quickly. Three important areas were identified following the nursing care of this patient as being vital in successful case management; these were fluid therapy, pain management, and urine collection with catheter care. Other areas such as stress management, behavioral intervention and nutritional management were important.

## **Conclusion**

Correction of urethral obstruction in a male cat through catheterization is easier and less painful than any other method. This method is the most preferable and its success rate is high to correct blocked cat. No complications were found in the present case.

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## **Biography**

I am Joynti Saha, the daughter of Shankar Saha and Mitu Saha. My birthplace is Noakhali district. In 2017 I received my Higher Secondary Certificate (HSC) from Shahed Bir Uttam Lt. Anowar Girls College in Dhaka, and in 2015 I received my Secondary School Certificate (SSC) from Bashurhat A. H. C Govt. High School in Noakhali. I started my studies for a Doctor of Veterinary Medicine (DVM) at Chattogram Veterinary and Animal Sciences University (CVASU), located in Chattogram, Bangladesh, in the 2017–2018 academic year. In the immediate future, I'd like to work and have a strong interest in medicine.