THE IRAQI JOURNAL OF
VETERINARY MEDICINE
eISSN:2410-7409
pISSN: 1609-5693

OPEN ACCESS

Perineal Urethrostomy Repairing Urethral Obstruction in Male Cats

Hameed A AL-Timmemi , Nour M Muharib*

Department of Surgery and Obstetrics, College of Veterinary Medicine, University of Baghdad, Baghdad, Iraq

***Correspondence**:
nour.mahmoud1202a@covm.uobaghdad.edu.iq
Received: 30 January 2026
Revised: 22 June 2026
Accepted: 28 June 2026
Published: 28 June 2026

DOI:
https://doi.org/10.30539/cj31ah96

Cite:
AL-Timmemi HA, Muharib NM, B. Perineal urethrostomy repairing urethral obstruction in male cats. Iraqi J. Vet. Med. 2026;50(1):79-83.

A B S T R A C T

Feline urethral obstructions are common in young male cats because the urethra is long and narrow. It has a high mortality rate and most cases need urgent surgery to be resolved. The aim of the present study is to evaluate the efficacy of perineal urethrostomy (PU) in Male cats. The surgical procedure was accomplished on five Persian male cats; the postoperative administration included three days of catheterization and antibiotic therapy for seven days. The follow-up period was from six months up to 18 months. The results showed successful perineal urethrostomy for four of five cases without complications or re-obstruction episodes during the follow-up period. In conclusion, perineal urethrostomy demonstrated 80% success rate with no complications and excellent clinical outcomes in Persian male cats without recurrence of urethral obstruction.

Keywords: feline urethral obstruction, perineal urethrostomy, Persian cats, urinary tract disease

INTRODUCTION

Lower urinary tract disease in feline is considered one of an important and life-threaten clinical cases episodes in small animal practice, affecting approximately 1-3% of the feline population annually (**1**). The narrow urethral diameter in male cat makes them more susceptible to urethral obstruction, this emergency medical condition requires immediate intervention (**2**). The incidence of urethral obstruction in feline ranges from 1.5% to 9% in emergency veterinary practice (**3**).

Different etiological causes of urethral obstruction in tom cat my occurs including uroliths, orifice strictures, blood clots, or neoplasia (**2**). Brachycephalic anatomy and associated conformational changes predispose purebred cats to urinary tract disorders due to genetic and anatomical factors (**4**), especially Persians have higher rates of urinary tract complications (**5**). The initial treatment of urethral obstruction is catheterization and medical therapy, but replete using may lead to urethral trauma, stricture formation, and lower urinary tract infection (**6**). The major indication for perineal urethrostomy is catheter-induced urethral trauma (**7**). Perineal urethrostomy becomes necessary when conservative management fails or complications arise.

Perineal urethrostomy was first described in the 1970s (**8**), and the technique has since been refined and widely described in veterinary surgical textbooks (**9**). This procedure makes the urethral opening wider that decreases the possibility of repeated obstruction. The outcomes of this technique in feline range from 85-95% and the complications involving urinary tract infection, stricture, and urinary incontinence recorded in 10-30% of cases (**10**). It has been reported that perineal urethrostomy

surgery performed in 10% of cats with urethral obstruction after failure of medical management (**2**).

Urethral obstruction is a common and serious condition affecting male cats and represents a frequent cause of emergency presentation in veterinary clinics. There is still a lack of region-specific outcome data and the reports that are now available have primarily focused on the treatment of feline lower urinary tract disease rather than the results after surgery (**10,11**). Therefore, this study aimed to explore the practical outcome of using perineal urethrostomy in male Persian cats in Iraq.

MATERIALS AND METHODS

Ethical Approval

This is an evaluative case series of clinical cases referred to a veterinary clinic between December 2023 and August 2025. All procedures were performed with owner consent and in accordance with approval from the Animal Ethics Committee of the College of Veterinary Medicine, University of Baghdad (Protocol No. P. G/ 2459).

Patient Selection

The selected cases were, Persian breed male, aged 1-4 years with history of continuous urethral obstruction that associated with complications from repeated catheterization. Complete medical records including surgical documentation and follow-up data.

Preoperative Assessment

All cats underwent standardized preoperative evaluation. the assessment included; Complete physical examination with calculating the hydration status, palpation for assessment of distension and pain of urinary bladder, recording of previous catheterization associated with complications, confirm of urethral obstruction through catheter passage.

Anesthetic Protocol

All procedures were performed under general anesthesia using a mixture of xylazine (0.75mg/kg IM) and ketamine HCL (15 mg/kg IM) (12).

Surgical Procedure

The surgical technique followed the procedure described by Fossum (2019)(9). The animal was positioned in ventral recumbency with extended and secured hindlimbs. Preparation of perineal region aseptically. An elliptical skin incision was made around the prepuce and scrotum. (**Figure1A**). Dissection and identification of penile urethra (**Figure 1B**). The urethra was transected at the level of the wider luminal diameter. Urethral stoma was created using 4-0 nylon sutures (Ethicon, Inc.). Mucosal-to-skin apposition was sutured using simple interrupted suture pattern (**Figure 1C**). Temporary urethral catheter placement to maintain standard healing process (**Figure 1D**).

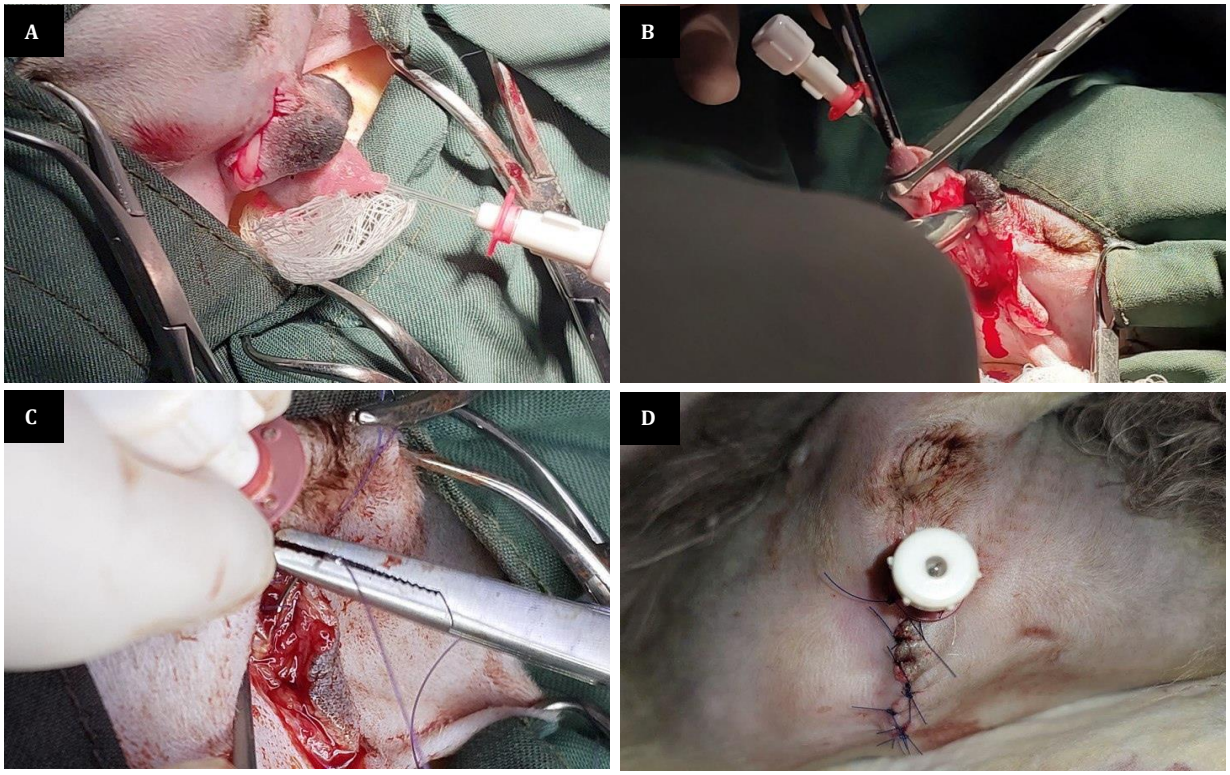

Figure 1. (A) Elliptical skin incision around the prepuce and scrotum during perineal urethrostomy in a male Persian cat. (B) Surgical intervention to identify the penile urethra. (C) Mucosal-to-skin apposition of the urethral stoma using a simple interrupted suture pattern with 4-0 nylon sutures. (D) Temporary urethral catheter placement following completion of perineal urethrostomy to maintain a standard healing process

Postoperative Management

The recovery in quiet environment with monitoring of temperature, analgesic drug administration meloxicam (0. 2 mg/kg -12 h). Fluid therapy was administered according to hydration status. The urethral catheter was placed for 72 hours post-surgery with daily aseptic care of catheter. The administration of therapeutic systemic antibiotic ceftriaxone (25 mg/kg IV) was done twice daily for 7 days as therapeutic, based on clinical evidence of signs of hematuria or turbidity in of urine in the first stream after immediate catheterization. The once-daily dosing is more pharmacokinetically standard for ceftriaxone given its long half-life, but dosing was used in our protocol to ensure higher trough concentrations due to severity of infection. Wound care was performed through daily inspection of surgical site for signs of inflammation or dehiscence, gentle cleaning with saline solution as needed, Elizabethan collar application to prevent self-trauma, activity restriction during initial healing phase (7-10 days).

Follow-up Protocol

Patients were evaluated according to follow up schedule through; immediate postoperative of daily examination until three days, short term for examination at 10-14 days for suture removal, medium term for clinical evaluation at 1 and 3 months post-surgery, and long term for annual follow-up examinations.

Follow-up Assessments

Physical examination was done of stoma appearance and function, evaluation of urination patterns and characteristics, in addition, assessment for complications including stricture, incontinence, or infection, owner satisfaction surveys regarding urinary function and quality of life.

RESULTS

Preoperative Clinical Presentation

Dysuria and stranguria in100% of cases, hematuria in100% of cases, palpably distended urinary bladder 100% of cases, evidence of urethral trauma from previous catheterization in100% of cases, dehydration ranging from mild to moderate in 60% of cases.

Five cats underwent through perineal urethrostomy. Surgical success was defined as creation of a patent urethral stoma with adequate luminal diameter, absence of significant intraoperative hemorrhage, urethral laceration, or anesthetic complications. All five cases met these criteria.

Intraoperative Findings

All cats demonstrated a suitable anatomical variation in urethral diameter. The urethral mucosa in all cases demonstrated normal pink coloration, adequate moisture, and absence of necrotic tissue or fibrotic changes at the surgical site, despite previous trauma.

Postoperative Course

All cases recovered from anesthesia within 2-4 h and without any complications were recorded within the first 72 h. A urethral catheter was left in place for three consecutive days as part of standardized postoperative procedures.

The catheters worked as proposed, and there were no issues with excessive bleeding, wound dehiscence, or catheter-related problems. Pain was well-managed with multimodal analgesia. All cats were able to urinate on their own within 6 to 12 h after their catheters were removed.

After the initial three-day recovery period, all the cats continued to show excellent progress during the short-term recovery phase this indicates 100% surgical success, which lasted up to one month. There were no signs of surgical site infections, wound complications, or early stricture formation. All the cats had normal urination patterns with a strong stream flow. The Elizabethan collars were removed between 10 and 14 days, and the cats completed their antibiotic therapy without any adverse reactions. Stoma appearance was satisfactory in all cases with appropriate healing and no signs of stenosis.

Long-term follow-up data was collected for all five cats in the study. The observation periods were variable for each cat, ranging from a minimum of six months to a maximum of 18 months (**Table 1**).

Table 1. Long-term success metrics after urethrostomy in five cats

Recurrent signs of obstruction	20%	(1/5 cats) throughout entire follow-up period
Functional Success	80%	maintained normal urination patterns

Late Complications Assessment included; one of five cases showed urethral stricture formation and four of five cases demonstrated no persistent incontinence or dribbling, no chronic urinary tract infections requiring treatment, no behavioral changes related to urination, and no cosmetic concerns reported by owners.

DISCUSSION

The long-term follow-up of PU conducted in this study revealed a practical window into the proper effectiveness of this procedure within the Persian breed cat. While various surgical reports focus on the immediate discharge period, the treated long-term monitoring was considered essential (**13**). This is due to the fact that the most common problems that surgeons anticipate, specifically, stoma stricture and persistent ascending infections, rarely appear in the initial weeks of healing (**14**).

The surgical procedure in all five available cases only because perineal urethrostomy in cats represents a select subset of urological cases requiring surgical intervention. Accumulating a large cohort within a single institution and timeframe is inherently limited by case availability, which is a recognized constraint in veterinary surgical reporting was without intraoperative complications. No postoperative complications including hemorrhage, wound dehiscence, or surgical site infection were observed. These results are consistent with (**15**) who documented 25.4% of

59 complication rates in short term follow-up, suggesting that careful adherence to standardized surgical protocols may minimize perioperative postoperative risks. All cats achieved spontaneous urination within 6-12 h following urethral catheter removal, representing fast functional restoration.

The success rate of surgical procedure was 80% distinct by a return to a consistent, standard urination pattern. From a surgical standpoint, this represents an essential change in the physiology of cat. This surgery greatly reduced bladder pressure by avoiding the penile urethra obstruction and establishing a new exit at the pelvic urethra. This shift is for lifesaving (**16**). The fact that the successful cases stayed without complications for 18 months proves that the stoma can remain stable and resist the kind of progressive scarring often expected in feline urology (**17**).

Long-term functional outcomes four of five cats maintained normal urination patterns without reobstruction throughout their respective follow-up periods. In a retrospective study of 86 cats, reported that 87% survived longer than 6 months post-PU, with 60% remaining completely asymptomatic (**8**). Similarly, Slater et al. (**18**) documented favorable long-term quality of life outcomes in 74 cats followed for 5-29 months.

All four cats with uncomplicated outcomes returned to normal activity levels with no owner-reported behavioral changes related to urination. Owner satisfaction corresponded with functional success (4/5), consistent with (**8**), who reported that 88% of owners rated their cats' quality of life as good following PU, and (**14**), who documented 93% owner satisfaction. No cosmetic concerns regarding stoma appearance were reported. The variable follow-up duration (6-18 months) compared with cats followed for shorter periods having less opportunity to develop late complications. Seneviratne et al. (**14**) documented mortality rates up to 24% in long-term follow-up, suggesting that extended observation beyond 18 months may be necessary to capture all relevant outcomes.

The data shows 20% failure of cases, when the recurrent obstruction signs and occurred at the four-month. The late-term failures due to inflammatory reaction, such as hyperactive granulation tissue or a delayed reaction to the sutures (**19**). Highly concentrated urine can irritate the healing mucocutaneous interface, making it less elastic and more prone to fibrosis (**8,19**). This failure necessitates long-term stoma monitoring (**18**). According to Bass et al. (**10**), 28.2% of 59 individuals experienced late sequelae, such as recurring bacterial UTIs. In 56 cats, Seneviratne et al. (**14**) showed short-term complication rates of 13–25% and long-term rates of 20–42%. According to Phillips and Holt (**17**), instances requiring recurrent surgery for stricture formation appeared at a median of 71 days following surgery, indicating that the risk peaked in the early stages of tissue remodeling. Stricture formation typically occurs two to six months following surgery during collagen remodeling, according to research by Bass et al (**10**).

There was no clinical difference between the intact and neutered males in the present study and the absence of chronic UTIs were observed. In contrast, a study report this in 30% of cases (**10**). This was controlled through the precised suturing of mucosal-to-skin and administration of ceftriaxone that likely cleared any subclinical infections before they could occur (**9**).

The current study suggests that penile urethrostomy is appears to be a reliable treatment option for Persian cats facing chronic urethral blockages. An 80% success rate provides solid evidence that the procedure is successful, and the 20% failure due to late-term scarring which indicate the need of long- term follow up, the small sample size is considered the main limitations, however the larger cohorts are recommended to confirm these findings.

ACKNOWLEDGEMENTS

The authors acknowledge the veterinary staff of the clinic for their assistance in patient care and data collection. Special recognition is given to the Persian cat owners who provided comprehensive follow-up information essential to this study.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Both authors contributed equally to this work. Both authors have read and approved the final version of the manuscript.

ARTIFICIAL INTELLIGENT DECLARATION

The authors declare that they are responsible for the accuracy and integrity of all content of the manuscript, including part generated by AI, and it is not used as a co-author.

REFERENCES

1. Lekcharoensuk C, Osborne CA, Lulich JP. Epidemiologic study of risk factors for lower urinary tract diseases in cats. J Am Vet Med Assoc. 2001;218(9):1429-1435. https://doi.org/10.2460/javma.2001.218.1429
2. Segev G, Livne H, Ranen E, Lavy E. Urethral obstruction in cats: Predisposing factors, clinical, clinicopathological characteristics and prognosis. J Feline Med Surg. 2011;13(2):101-108. https://doi.org/10.1016/j.jfms.2010.10.006
3. Gerber B, Boretti FS, Kley S, Laluha P, Müller C, Sieber N, et al. Evaluation of clinical signs and causes of lower urinary tract disease in European cats. J Small Anim Pract. 2005;46(12):571-577. https://doi.org/10.1111/j.1748-5827.2005.tb00288.x
4. Beeston D, Humm K, Church DB, Brodbelt D, O'Neill DG. Occurrence and clinical management of urethral obstruction in male cats under primary veterinary care in the United Kingdom in 2016. J Vet Intern Med. 2022;36(2):599-608. https://doi.org/10.1111/jvim.16389
5. Cannon AB, Westropp JL, Ruby AL, Kass PH. Evaluation of trends in urolith composition in cats: 5,230 cases (1985–2004). J Am Vet Med Assoc. 2007;231(4):570-576. https://doi.org/10.2460/javma.231.4.570
6. Cooper ES, Owens TJ, Chew DJ, Buffington CA. A protocol for managing urethral obstruction in male cats without urethral catheterization. J Am Vet Med Assoc. 2010;237(11):1261-1266. https://doi.org/10.2460/javma.237.11.1261

7. Corgozinho KB, de Souza HJ, Pereira AN, Belchior C, da Silva MA, Martins MC, Damico CB. Catheter-induced urethral trauma in cats with urethral obstruction. J Feline Med Surg. 2007;9(6):481-486. https://doi.org/10.1016/j.jfms.2007.09.002
8. Ruda L, Heiene R. Short- and long-term outcome after perineal urethrostomy in 86 cats with feline lower urinary tract disease. J Small Anim Pract. 2012;53:693-698. https://doi.org/10.1111/j.1748-5827.2012.01310.x
9. Fossum TW. Small animal surgery. 5th ed. St. Louis (MO): Elsevier; 2018. p. 708-715. https://shop.elsevier.com/books/small-animal-surgery/fossum/978-0-323-44344-9
10. Bass M, Howard J, Gerber B, Messmer M. Retrospective study of indications for and outcome of perineal urethrostomy in cats. J Small Anim Pract. 2005;46(5):227-231. https://doi.org/10.1111/j.1748-5827.2005.tb00314.x
11. Ayoub S, Mostafa M, Abdelgalil A. Preliminary management of feline lower urinary tract diseases in Egypt cat population. Agric Rev. 2025;46(6):1013-1017. https://doi.org/10.18805/ag.RF-316
12. Dzikiti TB, Chanaiwa S, Mponda P, Sigauke C, Dziki LN. Comparison of quality of induction of anaesthesia between intramuscularly administered ketamine, intravenously administered ketamine and intravenously administered propofol in xylazine premedicated cats. **J** S Afr Vet Assoc . 2007;78(4):201-204. doi: 10.4102/jsava.v78i4.323.
13. Nye AK, Luther JK. Feline perineal urethrostomy: a review of past and present literature. Top Companion Anim Med. 2018;33(3):77-82. https://doi.org/10.1053/j.tcam.2018.07.002
14. Seneviratne M, Stamenova P, Lee K. Comparison of surgical indications and short- and long-term complications in 56 cats undergoing perineal, transpelvic or prepubic urethrostomy. J Feline Med Surg. 2021;23(6):477-486. https://doi.org/10.1177/1098612X20959032
15. Watson MT, Roca RY, Breiteneicher AH, Kalis RH. Evaluation of postoperative complication rates in cats undergoing perineal urethrostomy performed in dorsal recumbency. J Feline Med Surg. 2020;22(4):399-403. https://doi.org/10.1177/1098612X19838286
16. Gunn-Moore D. Feline lower urinary tract disease. J Feline Med Surg. 2003;5(2):133-138. https://doi.org/10.1016/S1098-612X(02)00129-8
17. Phillips H, Holt DE. Surgical revision of the urethral stoma following perineal urethrostomy in 11 cats (1998–2004). J Am Anim Hosp Assoc. 2006;42(3):218-222. https://doi.org/10.5326/0420218
18. Slater MR, Pailler S, Gayle JM, Cohen I, Galloway EL, Frank KA, et al . Welfare of cats 5–29 months after perineal urethrostomy: 74 cases (2015–2017). J Feline Med Surg. 2020;22(6):582-588. https://doi.org/10.1177/1098612X19867777
19. Papazoglou LG, Tsioli V, Papaioannou N, Georgiadis M, Savvas I, Prassinos N, et al. Comparison of absorbable and nonabsorbable sutures for intradermal skin closure in cats. Can Vet J. 2010;51(7):770-772. PMID: 20885834; PMCID: PMC2885123

رأب الإحليل العجاني لعلاج انسداد الإحليل في القطط الذكور

حميد علي التميمي، نور محمود محارب
فرع الجراحة والتوليد،كلية الطب البيطري، جامعة بغداد، بغداد، العراق

الخلاصة

يُعدّ انسداد الإحليل من أبرز الحالات الطارئة في القطط. تهدف الدراسة الحالية إلى تقييم فعالية رأب الإحليل العجاني في ذكور القطط. أُجري الإجراء الجراحي على خمس قطط ذكور من السلالة الفارسية؛ وتضمنت الرعاية التالية للعملية وضع قسطرة لمدة ثلاثة أيام وعلاجاً بالمضادات الحيوية لمدة سبعة أيام. وامتدت فترة المتابعة من ستة أشهر حتى ثمانية عشر شهرا .ظهرت النتائج أربع حالات من أصل خمس نجاح عملية فغر الإحليل العجاني دون حدوث مضاعفات أو نوبات إعادة انسداد خلال فترة المتابعة. في الاستنتاج أظهرت عملية فغر الإحليل العجاني نسبة نجاح بلغت 80% دون مضاعفات، مع نتائج سريرية ممتازة في ذكور القطط الفارسية دون تكرار انسداد الإحليل.

الكلمات المفاحية: انسداد الإحليل في القطط، فغر الإحليل العجاني، القطط الفارسية، أمراض المسالك البولية