

PERINEAL URETHROSTOMY WITH SCROTAL ABLATION FOR MANAGEMENT OF URETHRAL RUPTURE IN A DOG

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SUMMARY

The report describes a case of urethral rupture in an adult intact male dog and its successful management by scrotal ablation and perineal urethrostomy. A 5-year-old intact Shih Tzu male dog was presented with a history of urination from the post-scrotal region for one month and scalding of the skin surrounding the scrotum in the groin region. Scrotal ablation and perineal urethrostomy were performed. The dog recovered within 2 weeks of surgery and was urinating normally without any complications from the newly created opening. Perineal urethrostomy can be an effective approach for the management of urethral rupture in dogs.

Keywords: Perineal urethrostomy; Scrotal ablation; Urethral rupture; Urine scalding

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Dog is considered as a best companion to humans and dog breeding has become a widely accepted hobby all over the world (Singh *et al.*, 2019). There are several problems associated with male urogenital system in dogs. Urethrostomy is a surgical procedure that involves the creation of a new opening (Smeak, 2000) in the urethra to address recurrent or persistent urethral obstruction or in case of urethral rupture. When traditional medical treatments have proven ineffective or in case of recurrent urethral obstruction or strictures in the penile urethra from previous urethrotomy incisions, urethrostomy can significantly improve the quality of life for affected dog by providing an alternate route for urination. Urethral rupture is a common complication to urinary obstructions due to urinary calculi or tumorous condition, accidental injuries to urethra and iatrogenic injury through catheterization (Taylor and Smeak, 2021). Urethrostomy is recommended if the penile urethra in the scrotal or lower perineal region becomes irreparable due to trauma, stricture, or neoplasia. Perineal urethrostomy is a specialized form of urethrostomy that involves creating a new opening in the urethra in the perineum. When scrotal urethrostomy proves ineffective due to scarring or persistent chronic stoma bleeding, perineal urethrostomy can be recommended (Taylor and Smeak, 2021).

A 5-year-old intact male Shih Tzu dog, weighing 4.4 kg, was presented at the VCC division, F.V.Sc & A.H., SKUAST-J, R.S. Pura, Jammu, with the complaint of urinating from the perineal region instead of normal preputial opening. Since the dog was recently adopted, therefore the chronicity of the condition was unknown. The physiological parameters, *viz.* rectal temperature, heart rate, and respiratory rate were 102° F, 130 beats/min,

and 35 breaths/min, respectively, and the mucus membrane was pinkish in colour. Hairs in the perineal region were moist and matted, producing a foul smell (Fig. 1). Hair clipping revealed two openings, one on either side of the median plane of the perineum and peri-stomal, as well as scrotal skin inflammation. Fluid discharge was observed from the opening on the left, which suggested that a urine pocket had formed, whereas no discharge was observed from the other opening. The perineal region was firm to touch. Urethral catheterization failed due to fibrosis in the penile urethra cranial to the rupture. Scrotal ablation and perineal urethrostomy were planned.

The dog was premedicated with Atropine Sulphate @ 0.04 mg/kg, IM, followed 15 minutes later by Xylazine Hydrochloride @ 2 mg/kg, IM. When sedated, Ketamine Hydrochloride was administered @ 10 mg/kg, IM for induction and the dog was prepared for aseptic surgery. A mixture of Ketamine (50 mg/ml) and Diazepam (5 mg/ml) in 3:1 ratio v/v @ 0.1 ml/kg, IV was used to maintain anaesthesia. Pre-operative therapy included Inj. Ceftriaxone and Tazobactam @ 25 mg/kg, IV and Inj. Meloxicam @ 0.2 mg/kg, IM. Scrotal ablation was performed by making elliptical incision around the base of the scrotum. Spermatic cords were ligated and the testes removed. The skin incision was extended caudally. The penis was freed from adhesions by fine undermining. The urethra on the ventral side of the penis was identified and a 4 cm longitudinal incision was made on urethra. Catheterization of urethra was performed with 8 French urinary catheter through the urethral rupture site. The skin edges were excised to remove the necrotic tissue around the stoma due to urethral rupture. The urethra was incised over the catheter to a distance of about 3 cm. The incised edges of urethral mucosa were sutured to the adjacent skin using 3-0

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Fig. 1. Matted hair and skin inflammation

Nylon in simple continuous pattern (Fig. 2). Skin cranial to the stoma was sutured in routine manner. The urethral catheter was fixed to the skin via a Chinese finger-trap and left in place for 3 post-operative days.

Postoperatively, daily antiseptic dressing of the surgical wound was done with 5% povidone-iodine, Inj. Meloxicam (Melonex, Intas Pharmaceuticals Ltd., Gujarat, India) and Inj. Ceftriaxone and tazobactam (Intacef-Tazo Pet, Intas Pharmaceuticals Ltd., Gujrat) were continued for 5 days. An Elizabethan collar was maintained for 14 days and skin sutures were removed on 15th day.

The perineal region has been cited as the least desirable location for urethrostomy in the dog due to increased urine leakage, urine scalding and difficulty in suturing the deep urethra to the skin and ascending bacterial cystitis has been described as a complication after perineal urethrostomy (Gahring, 1983). However as per Taylor and Smeak (2021), when a scrotal urethrostomy is indicated for a dog, but castration is objectionable to owners, a perineal urethrostomy may be considered as permanent urethrostomy in the perineal region and does not result in major surgical or postoperative complications. By following appropriate procedures such as gentle tissue handling, precise alignment of urethral mucosa to the skin,



Fig. 2. Perineal urethrostomy and in place urethral catheter

and ensuring a closure without tension, the likelihood of urethral stricture formation after perineal urethrostomy surgery in dogs is minimised (Stockman, 1972; Taylor and Smeak, 2021). In conclusion, the present case describes the successful surgical management of urethral rupture through perineal urethrostomy and addressing the complication associated with it through scrotal ablation and post-operative care to prevent urine scalding. It also highlights the importance of timely intervention and appropriate surgical approach for managing urogenital complication.

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