

SURGICAL REPAIR OF URETHRAL DIVERTICULUM WITH PENILE URETHRAL HYPOSPADIAS IN TWO OSMANABADI KIDS

R.V. SURYAWANSHI* and A.H. ULEMALE

Department of Veterinary Surgery & Radiology

Krantisinh Nana Patil College of Veterinary Science, Shirwal-412081, Satara, India

Maharashtra Animal & Fishery Sciences University, Nagpur, India

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SUMMARY

Two Osmanabadi kids aged between 2-3 weeks presented with chief complaint of dribbling of urine since birth with normal clinical and haematological parameters. Clinico-physical examination revealed sacculcation of prepuccial skin ventral to the penis with incomplete development of prepuce indicating urethral diverticulum with hypospadias as a congenital defect. The said congenital defect was treated surgically via diverticulectomy in both the kids under general anaesthesia. Postoperatively during follow-up period, both the kids assumed normal urination and recovered uneventfully.

Keywords: Congenital, Dribbling, Hypospadias, Ketamine, Kids, Urethral Diverticulum

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Penile urethra terminates ventrally at any level from the perineum to the tip of the penis (Radostitis *et al.*, 2007). Congenital malformations can result from defective genetics or environmental factors or a combination of both (Shukla *et al.*, 2007). The etiology of diverticulum with hypospadias could be multifactorial, associated with genetic, endocrinological and environmental factors (Silver, 2000; Sakhaee and Azari, 2009). There are several reports on congenital anomalies of the genital goat kids; the more frequent one seems to be penile urethral diverticulum which can be associated to other anatomical defects such as hypospadias, ectopic testicles and paraphimosis (Sylla *et al.*, 2019). The present paper documents the case of urethral diverticulum along with urethral hypospadias in two Osmanabadi kids and its surgical repair.

Two Osmanabadi kids aged between 15-21 days old were presented to teaching veterinary hospital with history of fluid filled swelling at prescrotal area (Fig. 1) since birth without any concurrent anomalies like cryptorchidism or hermaphroditism. On clinical examination, both the kids were found to be active, alert and suckling normally. The average body temperature (100.5 °F), heart beat (78/min) and respiratory rates (24/min) found to be within normal range. Complete blood count was in normal range in both the kids. Further examination revealed, fluid filled pocket ventral to the penile area with dribbling of urine via small urethral process. Manual compression of pocket revealed subcutaneous urine leakage and small quantity of urine was voided through urethra after manipulation. In both the

cases, abdominal ultrasonographic examination were carried out with the help 3.5 MHz curvilinear probe and revealed distended urinary bladder with normal kidneys. The centesis was performed with 24G needle to confirm physical and chemical properties of urine and it was found to be within normal range. After thorough investigation, both the animals were subjected to surgical correction of penile urethra under general anesthesia.

Animals were sedated with Inj. Xylazine @ 0.1 mg/kg and Inj. Diazepam @0.3 mg/kg intravenously and general anaesthesia was maintained on Inj. Ketamine @4mg/kg, intravenously. Surgical site was prepared aseptically with povidone iodine and bilateral elliptical incision was taken dorsal at diverticulum and sacculated part of prepuce was excised (Fig. 2) to examine the urethral fistula. After separating subcutaneous tissue, urethral fistulae were identified in both animals. After urethral catheterization (Fig. 3), prepuccial incision was extended upto fistulary tract aiming to patch up the fistulary opening by using Vicry No. 2-0 by simple continuous sutures. Subcutaneous tissues sutured with chromic catgut no-2 and skin was sutured with nylon. Postoperatively, both the kids received syrup amoxicillin clavulanate and meloxicam @ 22 mg/kg and 0.2 mg/kg orally, respectively. Surgical wound was dressed till complete healing and sutures were removed on 8th postoperative day. To conclude, the condition of urethral diverticulum with hypospadias in osmanabadi goat was repaired successfully via diverticulectomy. Both the kids assumed normal urination during follow up period.

Hypospadias is a defect of the external genitalia

*Corresponding author: drravi_7@yahoo.co.in

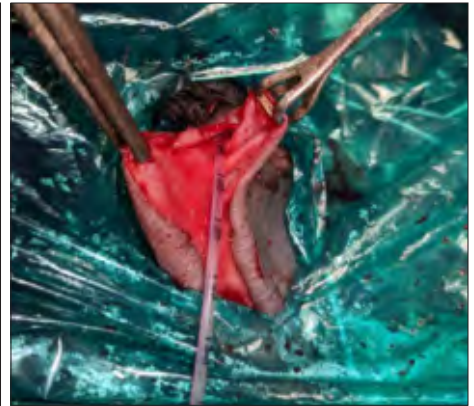


Fig. 1. Prescrotal sacculation ventral to penis indicates urethral diverticulum (blue arrow) with hypospadias in Osmanabadi kid.

Fig. 2. Surgical opening of urethral diverticulum sac with luminal appearance in Osmanabadi goat.

Fig. 3. Urinary catheterization via diverticulotomy wound to identify abnormal urethral opening and urethrostomy.

characterized by an incomplete development of the prepuce with a ventral opening in the urethra at some point along the penis or the perineum due to lack of partial fusing of the urethral fold. Congenital anomalies of urinary system in farm animals are rare, with patent urachus, hypospadias, and renal agenesis (Omidi *et al.*, 2011). Most common intravenous general anaesthetic used in small ruminants was xylazine and ketamine at the dose rate of 0.12 mg/kg and 4 mg/kg intravenously, respectively (Sylla *et al.*, 2019). In present report, the congenital defect was successfully repaired with diverticulectomy as reported by Sylla *et al.* (2019) and Hristov and Stoimenov (2020).

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