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# Surgical management of hypospadias in a Deoni calf: A case report

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**Abstract**
One week old male Deoni calf weighing 15–20 kg was presented to the Department of Veterinary Surgery and Radiology, Veterinary College, Bidar with signs of scalding of ventral perineum by urine. Upon clinical examination, it was found that there was an incomplete preputial sheath, the penis was not developed, and at the ventral perineum, the urethra opened. The condition was diagnosed as hypospadias and penile aplasia. Perineal Urethrostomy was performed under xylazine sedation with local infiltration of 2% lignocaine HCl. Post-operative antibiotics and anti-inflammatory drugs were given. The calf recovered uneventfully.

**Keywords:** Hypospadias, male calf, Deoni**,** penile aplasia

## Introduction
Farm animals are less likely to develop the urethral congenital abnormality known as Hypospadias (Dennis and Leopold, 1979) [7]. Penile, perineal, scrotal and anal hypospadias can be distinguished by the location of the urethral orifices. In a few cases, the penis may be undersized and abnormal (Alam *et al*., 2005) [2]. In hypospadias conditions, the external male urethra is inadequately closed (Radostits *et al*., 2007) [10].
In the majority of cases, the cause of this congenital anomaly is not fully known. Its occurrence may be influenced by the administration of progesterone to cows during the gestation period (Sakhaee and Azari, 2009) [11]. Certain endocrinological defects, such as malfunction of the fetal testes to produce sufficient levels of testosterone, could increase the risk of the occurrence of hypospadias and other associated genetic problems (Brouwers *et al*., 2006) [6].
Hypospadias in affected species is treated surgically (Boothe, 2002) [5]. Under local anesthesia, surgical intervention is carried out to correct the condition (Ali *et al*., 2013, Bokhari 2013) [4]. The present case report illustrates a typical case of hypospadias along with penile aplasia in a male Deoni calf.

## Case history and clinical findings
One week old male Deoni calf weighing 15–20 kg was presented to the Department of Veterinary Surgery and Radiology, Veterinary College, Bidar with signs of scalding of ventral perineum by urine. Upon clinical examination, it was found that there was an incomplete preputial sheath, the penis was not developed, and at the ventral perineum the urethra opened. The condition was diagnosed as hypospadias and penile aplasia (Figure 1).
The calf was anesthetized by administering xylazine hydrochloride 0.03 mg/kg, *i.v*. with local infiltration of 2% lignocaine HCl. The calf was positioned on dorsal recumbency, and the caudal abdominal and perineal regions were aseptically prepared for operation. An infant feeding tube was placed into the urethral opening (Figure 2). The urethral epithelium was sutured with 3–0 Polyglecaprone 25 sutures in a Cushing pattern to complete the perineal Urethrostomy (Figure 3). An incomplete preputial sheath was debrided and the skin was closed with simple interrupted sutures using nylon 2-0 (Figure 4). Post-operative amoxicillin @ 10 mg/kg *i.v*. is given for 5 days and meloxicam @ 0.2 mg/kg i/m for 3 days. The calf had an Uneventfull recovery two weeks after the surgical repair.

## Discussion
Dogs, goats, sheep and rarely cattle, are the species where hypospadias is most common (Saunders and Ladds, 1978; Hayes and Wilson, 1986) [12, 8].

In some families, the phenotype of hypospadias may result from an inherited genetic abnormality (Ader and Hobson, 1978) [1]. The urethra opening on the ventral portion of the penis and being visible outside of the preputial midline are characteristics of a congenital urethral abnormality known as hypospadias. Local swelling and associated signs of oliguria, dysuria and stranguria, as reported by (Temizsoylu, 2005) [13], were not observed in this case. Hypospadias is thought to be caused by a problem in the union of paired folds that occurs when the urogenital membrane ruptures in the embryo (Kluth *et al*., 1988) [9]. It is believed that variations in the timing of Hormonal disturbances induce disruption of the fusion of the urogenital folds to occur at various points along the urogenital tract (Uda *et al*., 2004) [14]. In the present case, a Urethrostomy was carried out to correct the hypospadias in a male calf.

**Fig 1:** Urethra opened at the ventral

**Fig 2:** Catheter was placed into the urethra

**Fig 3:** Suturing of urethral epithelium

**Fig 4:** Skin edges were closed with nylon

**Fig 5:** Two weeks after surgical correction calf

## Conclusion

The present case report illustrates the successful surgical management of hypospadias in a male Deoni calf by Perineal Urethrostomy.

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## References

1. Ader PL, Hobson HP. A review of the veterinary literature and a report of three cases in the dog. Journal of the American Animal Hospital Association. 1978;14:721-727.
2. Alam MR, Shin SH, Lee HB, Choi IH, Kim NS. Hypospadias in three calves: A case report. Veterinarni Medicina Czech. 2005;11:506-509.
3. Ali MM, Hussein KED, Galal AF. Diagnosis and treatment of congenital urethral dilatation in cattle calves. In: 20th International Congress of Mediterranean Federation of Health and Production of Ruminants. Assiut University, Egypt; c2013. p. 19-22.
4. Bokhari SG. Hypospedias and urethral diverticulum in two goat kids: A case report. Journal Animal and Plant Sciences. 2013;23:675-677.
5. Boothe HW. Penis, Prepuce and Scrotum. In: Textbook of Small Animal Surgery, Slatter, D (ed), 3rd Ed. WB Sunders Company, Philadelphia, USA; c2002. p. 153.
6. Brouwers MM, Feitz WF, Roelofs LA, Kiemeney LA, deGier RP, Roeleveld N. Hypospadias, a Transgenerational effect of diethylstilbestrol. Human Reproduction. 2006;21:666-669.
7. Dennis SM, Leopold HW. Ovine congenital defects. Veterinary Bulletin. 1979;49:233-239.
8. Hayes HM Jr, Wilson GP, Hospital incidence of

hypospadias in dogs in North America. Veterinary Record. 1986;118:605-607.
9. Kluth D, Lambrecht W, Reich P. Pathogenesis of hypospadias – More questions than answers. Journal of Pediatric Surgery. 1988;23:1095-1101.
10. Radostits OM, Gay CC, Hinchcliff KW, Constable PD. Veterinary Medicine. 10th Ed. Saunders Co, London, UK; c2007. p. 573.
11. Sakhaee E, Azari O. Hypospadias in Goats. Iranian Journal Veterinary Research. 2009;10:298-301.
12. Saunders PJ, Ladds PW. Congenital and developmental anomalies of the genitalia of slaughtered bulls. Australian Veterinary Journal. 1978;54:10-13.
13. Temizosylu MD. Penile urethral diverticulum in a kid. Ankara Univ Vet Fak Derg. 2005;52:185-187.
14. Uda A, Kojima Y, Hayashi Y, Mizuno K, Asai N, Kohri K. Morphological features of external genitalia in hypospadias rat model: 3-dimensional analysis. Journal of Urology. 2004;171:1362-1366.