

Hypospadias and urethral diverticula in goats

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Hypospadias is a developmental anomaly of the external genitalia in which the penile urethra terminates ventrally and caudally to its normal opening. The urethra may terminate at any level from the perineum to the tip of the penis.

Fifteen clinical cases of hypospadias and urethral diverticula in male kids brought for diagnosis and treatment to the clinics of the college of Veterinary Medicine from 1985-87 formed the part of study. All the animals were of local breed and were between 1 to 65 days of age. Hypospadias and urethral diverticula represented 12.2% (15/123) of all goats. Hypospadias was found in 9 of 15 cases (60%). All the cases of hypospadias were perineal in location. In three cases, the urethral opening was situated slightly below the anus and resembled a vulva. In two other cases urethra was a closed tube to a point somewhere between anus and scrotal sac, where

it abruptly ended. The exposed urethra appeared as pinkish red, moist structure devoid of hairs. Urine was voided through the small external opening located on the ventral surface. Similarly in other two cases urethra started as a closed tube just upto a point posterior to the scrotal sac, where it looked like a bulbus pinkish red structure. The urethral orifice was situated on the end of bulbus structure (Fig 1).

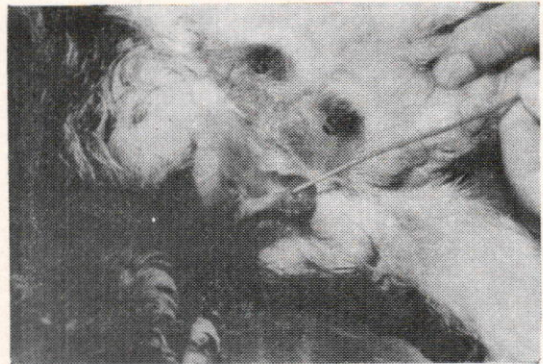


Fig. 1 : Ventral surface of a perineal hypospadias kid. Note the urethral opening (catheter), and cleft scrota (S).

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The urethral groove was open for almost the entire length of perineum in two hypospadiac kids (Fig 2).

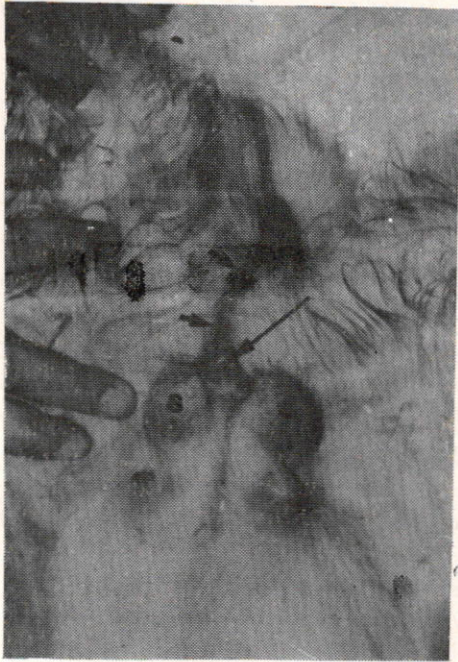


Fig. 2 : Ventral surface of a perineal hypospadias kid. Note the deep open urethral groove (arrow), ventrally curved under developed penis (large arrow) and cleft Scrota (S).

In all hypospadiac kids, penis was short and terminated some where posterior to the scrotal sac. In five cases underdeveloped penis took a deforming ventral curvature (chordae).

Urethral diverticula was found in six kids (40%). Clinical examinations revealed presence of a fluctuating swelling of varying size on the ventral surface of urethra.

Digital pressure on the swelling resulted in spurting of the urine and pain.

All the kids were having varying degree of cleft scrota. It was partial in six and complete in nine. No other detectable congenital anomalies were seen in these cases.

The partial or complete failure of two urethral fold to fuse in embryonic life to form extrapelvic urethra and failure of median raphae of the perineum, scrotum, penis and prepuce to develop result in hypospadias and urethral diverticulum (Cohrs 1967).

Hypospadias has been classified by location of the urethral orifice: balanitic, penile, penoscrotal, scrotal and perineal.

In present investigation, all the cases of hypospadias were perineal in location and were of severe form. Perineal hypospadias has been recognised to the most common form in domestic animals (Dennis, 1979); Dennis and Leipold, 1979).

Partial or complete cleft scrota was seen in all the kids with hypospadias and urethral diverticula and is accordance with the observations of Adler and Hobson, (1978) in dog, Dennis and Leipold, (1979) in sheep.

Other congenital anomalies have been reported to be associated with hypospadias, unilateral renal agenesis and cryptorchidism in dogs (Adler and Hobson, 1978), urethral diverticula in pigs excess foot webbing in monkey (Harrison, 1976) atresia ani, urethrorectal fistula and persis-

tant uterine bodies in sheep (Dennis, 1979). Hypospadias has been reported to be associated with intersex condition (Eatton, 1943).

Although the aberrant congenital mechanism that produces hypospadias and urethral diverticula is apparently clear, the causes are obscure. Little is known of genetic or environmental causes, but a definitive familial tendency has been noted in man (Rubin, (1967) and dogs (Hayes and Wilson 1986). Multiple congenital defects including hypospadias have been reported when the mothers were fed vitamin A deficient diet. (Wilson and Warkany, 1949). All these suggest a multifactorial causes in which the etiology is not known in most of the cases.

The incidence of 12.2% appeared to be very high in this investigation. This could possibly be due to small population of goats presented to clinics. Surprisingly no case of hypospadias was recorded in sheep inspite of their large population in this area.

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