Journal of
Advanced Veterinary Research
Volume 1 (2011) 76-79 **Case Report**

Congenital Absence of Tail with Atresia Ani and Hypospadias in a Kid- A Case Report

P. Veena, P. Sankar*, R.V. Suresh, Kumar S. Kokila, N. Dhana Lakshmi

Department of Veterinary Surgery and Radiology, College of Veterinary Science, Tirupati-517 502, Sri Venkateswara Veterinary University, Andhrapradesh, India

(Recieved 11 May 2011/ Accepted 17Jun 2011)

Abstract

One day old kid was presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science, Sri Venkateswara Veterinary University, Tirupati with the history of not passing feces since birth. Based on the clinical, physical and lateral radiographic examinations, the condition was diagnosed as hypospadias along with penile aplasia and atresia ani without tail. Animal made an uneventful recovery after the seventh post operative day.

Keywords: Atresia ani; Kid; Hypospadias; Tail

Introduction

Hypospadias is a rare congenital malformation of the urethra (Alam et al., 2005) which has been reported in dogs, sheep, goats, cattle, rats, nonhuman primates and human. Congenital anomalies of the urinary tract are not common in farm animals (Dennis and Leipold, 1979). Hypospadias is a rare congenital malformation of the urethra in domestic mammals. The most frequently reported anomalies of the urinary tract in goats are intersexes, testicular hypoplasia and unilateral cryptorchidism (Al-Ani *et al*., 1998). Hypospadias is imperfect closure of the external male urethra (Radostits *et al*., 2007). Affected animals may have other congenital or developmental anomalies such as cryptorchidism, which is reported to be the most congenital anomaly associated with hypospadias. Hypospadias is classified based on the location of the urethral opening as glandular, penile, scrotal, perineal and anal. In some cases, the penis may be underdeveloped and abnormal (Alam *et al*., 2005). The etiology of hypospadias is not well understood; it seems to be multifactorial and may be related to genetic, endocrinological and environmental factors (Silver, 2000). In the majority of cases, the etiology remains elusive, but generally it is considered as a congenital deformity that may be caused by extra- or intra-uterine factors resulting defects in androgen metabolism and/or androgen receptors (Uda *et al*., 2004). The present paper reports an unusual case of congenital absence of the tail with atresia ani and hypospadias in a kid.

Case history and observations

One day old kid was presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science, Sri Venkateswara Veterinary University, Tirupati with the history of not passing feces since birth. The owner reported that the kid has shown the symptoms of dysuria and stranguria. Haemato biochemical values, temperature, pulse and respiratory rate were within physiological limits. The kid was restrained in dorsal recumbency, and it was observed as a case of a rare congenital anomaly of the urogenital tract with aplasia of the penis, bifid scrotum with descended testis and ventrally incomplete sheath with urethral orifice opening, 2.0 cm below the anus and atresia ani with a congenital absence of the tail (Fig. 1 and Fig. 2). Based on the clinical, physical and lateral radiographic (Fig.3) examinations, the condition was diagnosed as hypospadias along with penile aplasia and atresia ani without a tail.

*Corresponding author: Sankar P.
Address: Department of Veterinary Surgery and Radiology, College of Veterinary Science, Tirupati-517 502, Sri Venkateswara Veterinary University, Andhrapradesh, India
E-mail address: sansurvet@gmail.com

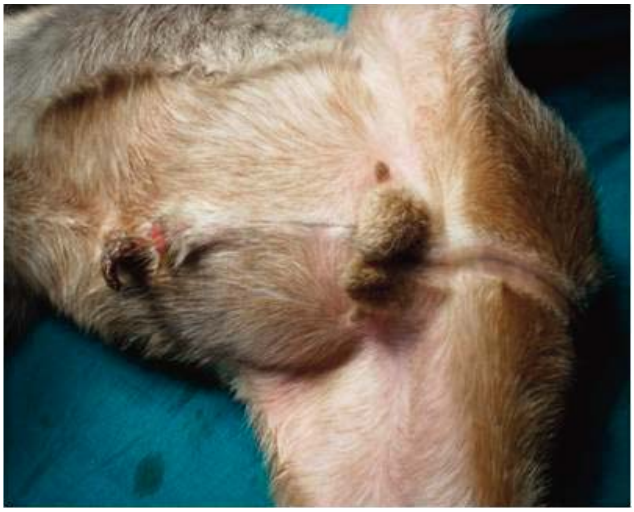

Fig.1. Hypospadias in a kid.

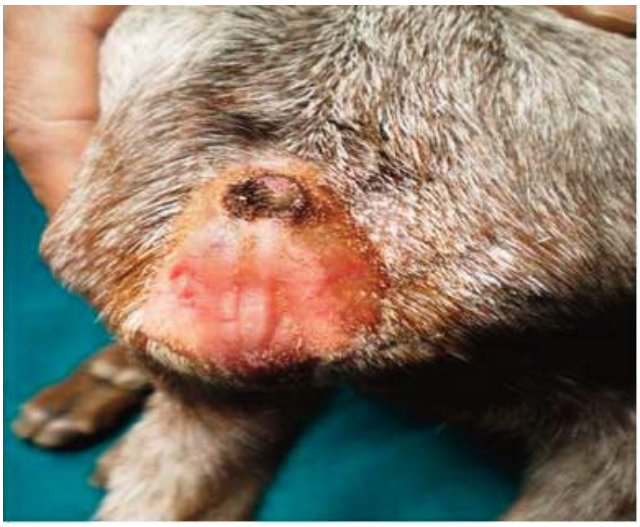

Fig.2. Atresia ani and absence of tail.

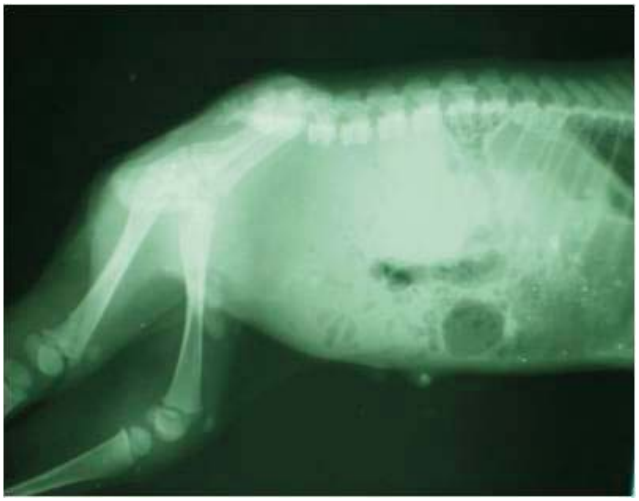

Fig.3. Absence of tail.

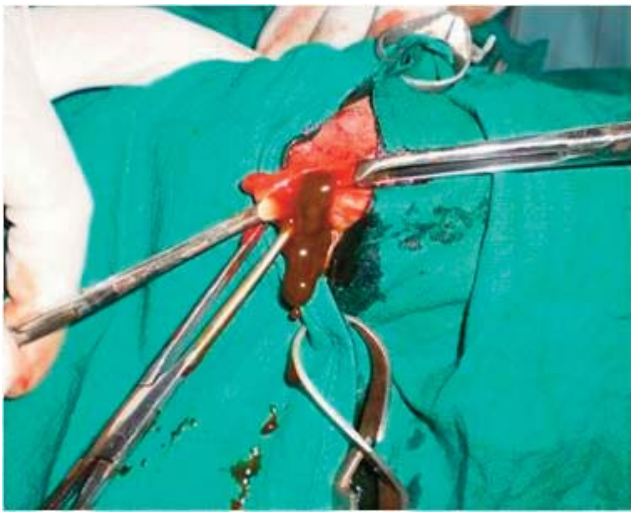

Fig.4. Muconeum after surgery.

Fig.5. Modified device for atresia ani.

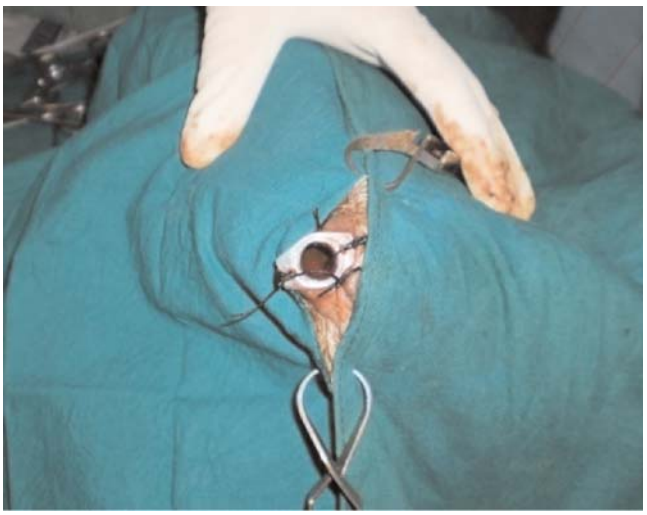

Fig. 6. Modified device for atresia ani after surgery.

Treatment

The kid was placed in dorsal recumbency and the caudal abdomen and the perineal regions were surgically prepared with 7.5% povidone iodine scrub. Local anaesthesia was used by circumferential injection of 2% lignocaine hydrochloride around the skin of the swollen area below the base of the tail. Atresia ani was treated by excision of a circular piece of anal skin. The rectum was exposed; meconium was oozed out immediately after incision (Fig. 4). The patency of the opening was maintained by application of interrupted sutures between skin and the mucous coat. A temporary canula was fixed to maintain the patency for one week (Fig. 5 and Fig. 6). In the present case surgical intervention of hypospadias was not attempted because of the presence of patent urethral opening just cranial to the bifid scrotum. Post operatively kid was given injection Amoxicillin and cloxacillin at a dose of 10mg/kg body weight intramuscularly, Injection meloxicam at a dose of 0.3mg/kg subcutaneously for five days. Wound was dressed daily with povidone iodine ointment for five days. Animal made an uneventful recovery after the seventh post operative day.

Discussion

The development of the external male genitalia is a complex process, involving genetic programming, cell differentiation, hormonal signaling, enzyme activity, and tissue remodeling. A disturbance in these processes might lead to disruption of the fusion of the urogenital folds at different sites along the urogenital tract. Environmental toxicants and xenoestrogens, acting during fetal life, have been partly implicated in an increasing incidence of hypospadias, as well as other reproductive tract abnormalities (Baskin *et al.*, 2001). The association between environmental oestrogen-like compounds and hypospadias has been suggested by previous workers (Sharpe and Skakkebaek, 1993). Several lines of evidences have suggested that oestrogens can modulate serum androgen levels. An additional concept explaining these disorders is of androgen-oestrogen imbalances created by endocrine disruptors, affecting androgen production and action (Tazuke *et al*., 1992; Bay *et al*., 2006). Familial clustering of hypospadias among first-degree relatives, as well as twin studies and segregation analysis have been supported a strong heritable component in this disorder in human (Fredell *et al*., 2002). One possible explanation for increase in the incidence of hypospadias may be environmental contaminations. Farm animals are constantly exposed to oestrogenic compounds which are known for their ability to disrupt reproduction (Kim *et al*., 2004). Recent changes in agriculture, particularly the increasing organic farming together with more expensive fertilizers, have lead to wider cultivation of red clover. It is well known that red clover contains phytoestrogens. Phytoestrogens are available in many foodstuffs. Even low concentrations, but prolonged exposure may cause phytoestrogens in the body to reach biologically significant levels. It was also suggested that the indirect role of phytoestrogens rather than having a direct oestrogenic effect, they may interact with other factors in the diet and lead to an interference with normal oestrogen biosynthesis (North and Golding, 2000).

Atresia ani is a congenital anomaly observed in calves, lambs and kids. It may be a condition on its own or associated with atresia or agenesis of other parts like atresia recti, recto vaginal fistula, recto cystic fistula, vagino-urethral agenesis, taillessness, hypospadias, cleft scrota. Atresia ani or recti has been associated with abnormal chromosomes. Developmental anomalies of the foetal life example failure of the anal membrane to become perforated, failure of the bowel to become canalized and interruption of the foetal blood supply to the anus may lead to atresia ani or atresia ani et recti (Jit Singh *et al.*, 1993). The present paper reports an unusual case of atresia ani with hypospadias, which is a congenital anomaly.

References

Alam, M.R., Shin, S.H., Lee, H.B., Choi, I.H., Kim, N.S., 2005. Hypospadias in three calves: a case report. Veterinary Medicine -Czech 50, 506-509.

Al-Ani, F.K., Khamas, W.A., Al-Qudah, K.M., Al-Rawashdeh, O., 1998. Occurrence of congenital anomalies in Shami breed goats: 211 cases investigated in 19 herds. Small Ruminant Research 28, 225-232.

Baskin, L.S., Himes, K., Colborn, T., 2001. Hypospadias and endocrine disruption: is there a connection? Environ. Health Perspectives 109, 1175-1183.

Bay, K., Asklund, C., Skakkebaek, N.E., Andersson, A.M. 2006. Testicular dysgenesis syndrome: possible role of endocrine disrupters. Best Practice & Research Clinical Endocrinology and Metabolism 20, 77-90.

Dennis, S.M., Leipold, H.W., 1979. Ovine congenital defects. Veterinary Bulletin 49, 233-239.

Fredell, L., Kochum, I., Hansson, E., Holmner, S., Lundquist, L., Lackgren, G., Pedersen, J., Stenberg, A., Westbacke, G., Nordenskjold, A. 2002. Heredity of hypospadias and the significance of low birth weight. J. Urol., 167: 1423-1427.

Jit Singh, Singh, A.P., Patil, D.B., 1993. Digestive system. In Text book of Ruminant Surgery, 1st (Eds) by Tyagi, R.P.S and Jit Singh. CBS Publishers and Distributors, Delhi. pp:222-223.

Kim, K.S., Torres, C.R.Jr., Yucel, S., Raimondo, K., Cunha, G.R., Baskin, L.S., 2004. Induction of hypospadias in a murine model bymaternal exposure to synthetic oestrogens. Environmental Research 94, 267-275.

North, K., Golding, J.A., 2000. A maternal vegetarian diet in pregnancy is associated with hypospadias. The ALSPAC Study Team. Avon Longitudinal Study of Pregnancy and Childhood. British Journal of Urology International 85, 107-113.

Radostits, O.M,, Gay, C.C, Hinchcliff, K.W., Constable, P.D., 2007. Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats10th Edn., London, Saunders Co. pp: 573.

Sharpe, R., Skakkebaek, N., 1993. Are oestrogens involved in falling sperm counts and disorders of the male reproductive tract? Lancet 341, 1392-1395.

Silver, R.I., 2000. What is the aetiology of hypospadias? A review of recent research. Delaware Medical Journal 72, 343-347.

Tazuke, S., Khaw, K.T., Barrett-Connor, E. 1992. Exogenous oestrogen and endogenous sex-hormones. Medicine 71, 44-51.

Uda, A., Kojima, Y., Hayashi, Y., Mizuno, K., Asai, N., Kohri, K., 2004. Morphological features of external genitalia in hypospadiac rat model: 3-dimensional analysis. Journal of Urology171, 1362-1366.