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CASE REPORT

Urethral Dilatation, Ectopic Testis, Hypoplasia Penis, and Phimosis in A Kilis Goat Kid

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Summary

A 6-day-old, male, Kilis goat kid with complaints of poor sucking reflex, dysuria, and swelling on the scrotal area was referred and it began to urinate when the sac was pressed on. On the clinical examination of the kid, it was observed that the urethral orifice and process narrowed down. Skin laid between anus-scrotum did not close fully on the ventral line. The most important finding was the penile urethral dilatation, which caused the fluctuating swelling on the scrotal region. Phimosis and two ectopic testis were also found on the right and left side in front of the preputium. There were no pathological changes in the hematological and urine analyses. Urethral diverticulum was treated by urethrostomy and hypoplasia of penis was noted during operation. No treatment for hypoplasia penis, phimosis and ectopic testis was performed. Postoperatively, kid healed and urination via urethral fistula without any complications was observed.

Keywords: *Ectopic testis, Goat kid, Hypoplasia penis, Phimosis, Urethral dilatation*

Bir Kilis Oğlağında Uretral Dilatasyon, Ektopik Testis, Penis Hipoplazisi ve Fimozis

Özet

Bu olguyu iştahı az olan, idrarını zorlanarak ve ağrılı bir biçimde yapan, skrotal bölgede sürekli bir şişkinliği olan ve bu şişkinliğe basınç yapıldığında ürinasyonun şekillendiği altı günlük erkek bir Kilis oğlağı oluşturdu. Yapılan klinik muayenede, uretral orifisyum ve proses aşağı doğru daralmıştı. Anus-scrotum arası derinin ventralde tam olarak kapanmadığı ve skrotumda fluktuan bir şişkinlik ile karakterize uretral dilatasyon bulunduğu görüldü. Ayrıca fimozis ile prepisyum'un kranialinde sağlı sollu lokalize olmuş iki adet ektopik testis görüldü. Bu şişkinliğe basınç yapıldığında orifisyum prepüsyale'den idrarın çıktığı belirlendi. Yapılan kan ve idrar analizlerinde herhangi bir patolojik değişikliğe rastlanmadı. Uretral dilatasyon, uretrostomi operasyonu ile tedavi edildi ve operasyon sırasında penis aplazisin varlığı kesinleşti. Penis hipoplazisi, fimozis ve ektopik testisin tedavisine yönelik herhangi bir girişimde bulunulmadı. Ameliyattan sonra yapılan muayenede, ameliyat yarasının herhangi bir komplikasyon olmaksızın iyileştiği ve hayvanın idrarını oluşturulan uretral fistülden yaptığı görüldü.

Anahtar sözcükler: *Ektopik testis, Fimozis, Oğlak, Penis hipoplazisi, Uretral dilatasyon*

INTRODUCTION

Congenital anomalies of the urinary system rarely occur in ruminants; though, a wide variety of abnormalities may be encountered. The most common defects are patent urachus, hypospadiasis and renal agenesis. Defects are frequently present in multiple form and often seen with anomalies of other systems. Hypospadiasis is found in association with hermaphrodism in goats; other defects are uncommon [1,2].

Although hereditary factors have an important role to play in the occurrence of urethral diverticulum and dilatation [3,4], it can also occur due to bacterial urethritis or

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surgical manipulations [5-7]. The urethral process is commonly amputated therapeutically and sometimes prophylactically in male small ruminants [2,7-10]. Limited reports of urethral diverticulum in goats and their kids exist [3,7,11]. In addition, no research data related to combined ectopic testis, aplasia penis and phimosis were available.

CASE HISTORY

A 6-day-old, male Kilis Goat kid with complications of difficulty in urination was referred to the Veterinary Teaching Hospital, Harran University. The animal owner complained vocalizing and straining during urination, poor sucking reflex, dysuria, swelling on the scrotal area.

On the clinical examination, the kid was depressed, tachycardic (126 beats/min), hyperpneic (32 beats/min), had a normal rectal temperature (39.4°C). There were a sheet penis through anus and fluctuating swelling on the scrotal region *(Fig. 1)*.

Fig 1. Penile urethral dilatation on the scrotal region
Şekil 1. Testislere lokalize olmuş uretral dilatasyon

On the other hand, phimosis and two ectopic testis that located on the right and left side of cranial preputium were determined. The urethral orifice and process narrow *(Fig. 2)*.

Urine was discharged from the external urethral orifice by the manual compression on the swelling. It was not possible to catheterize the urethra due to narrowed urethral orifice. Muscles of penis, via palpations from cranial to caudal of urethral orifice, have not been determined. This apperarance was thought to be hypoplasia of penis. Blood specimen was obtained from jugular vein to investigate some biochemical parameters *(Fig. 3)*. Scrotal swelling was compressed to empty urine from the external urethral orifice for urine analysis and also to provide to kid's relaxation.

Result of urine, biochemical and hematologic analyses revealed no degenerative or pathological signs of liver

Fig 2. Ectopic testicles that localized subcutaneously in the cranial portion of preputium
Şekil 2. Prepisyum'un kraniyaline subkutan olarak lokalize olmuş ektopik testisler

Fig 3. Urination with scrotal pressure
Şekil 3. Skrotuma basıç uygulanmasıyla urinasyon oluşumu

and kidney *(Table 1 and 2)*. Because the patient was an infertile male goat kid, the aim of treatment was to ease the patient's urination without any problem in order to make him live until the age of slaughter. For this reason, the uretrostomy operation was decided.

The day before the operation, the kid was removed sucking and an antibiotic (80.000 IU Penicillin G potassium + 240.000 IU Penicillin G procain + 0.55 g streptomycin sulfate, intramuscularly - Vetimisin, Vetas, Turkey) was administered immediately preoperatively and every 24 h for 6 day postoperatively. The urine in the swelling of diverticulum was evacuated by manipulation. An intravenous catheter was placed in left jugular vein and 5% dextrose + 0.9% NaCl solution (2 mg/kg/h - Dekstrosol, Vilsan, Turkey) administered during operation. The kid was prepared for aseptic surgery. Sedation and analgesia were provided by xylazine hydrochloride (0.2 mg/kg, IM - Rompun, Bayer, Turkey) and local anesthesia was

Table 1. *The results of blood and biochemical serum analyses*
Tablo 1. *Kan ve serum biyokimyasal analiz sonuçları*

Parameter	Unit	Value
Indirect bilirubin	mg/dL	0.15
Direct bilirubin	mg/dL	0.04
Total bilirubin	mg/dL	0.2
P	mg/dL	7.2
Haematocrit	%	27
Na	mEq/L	148
K	mEq/L	4.4
Ca	mg/dL	12.0
LDH	IU/L	171
Glucose	mg/dL	52
Urea	mg/dL	30
Creatinine	mg/dL	0.5
AST	IU/L	73
ALT	IU/L	11

Table 2. *Values of urine analysis that were determined via urine strip*
Tablo 2. *İdrar analizinde elde edilen değerler*

Parameter	Value
Bilirubin	Negative
Urobilinogen	+
Ketones	Negative
Ascorbic acid	Negative
Glucose	Negative
Protein	Negative
Blood	Negative
pH	Normal
Nitrite	Negative
Leukocytes	25
Dansity	1015

induced with lidocain HCl (Jetokain, Adeka, Turkey). The kid was positioned in dorsal recumbency.

Utilizing fine scissors, a large elliptical skin incision was made and urethral mucosa was removed. Urethral dilatation was observed as big as to fill scrotum. While the incision was lengthened from caudal to cranial preputial area, occurrence of hypoplasia penis was noticed *(Fig. 4)*.

Urethral diverticulum was excised and urethral opening was sutured by silk, using simple interrupted sutures *(Fig. 5)*. Urination via urethral fistula was provided.

The aim of this operation was to provide necessary conditions for comfortable urination. Because the patient was infertile, no surgical manipulation for hypoplasia penis, phimosis and ectopic testis was performed.

Fig 4. Urethral dilatation that localized in the scrotum. Penis and penile muscles has not been seen

Şekil 4. Skrotumda lokalize olmuş dilatasyon. Penis ve penis kasları görülmedi

Fig 5. Portion like a funnel. Urination was obtained from funnel region by palpation

Şekil 5. Huni şeklindeki kısım. Urinasyon, huni biçimindeki bölgeden şekillendi

Ten days after operation, skin sutures were removed. Surgical wound healed without any complications, and the clinical problems observed preoperatively were absent. Three months after surgery, a telephone conversation with the owner revealed that the kid was urinating normally and no adverse clinical or behavioral signs were reported.

DISCUSSION

Urethral dilatations may develop mainly due to congenital and genital factors, bacterial urethritis or surgical interventions [5-7].

Aplasia penis is combined with atresia ani and urethralis; aplasia urethra is combined with partial urethral defects. Cryptorchism is commonly associated

with phimosis and paraphimosis. Ectopic testis is atypically localized subcutaneously in the region of preputium, genu folds and perineum. Phimosis is a condition where the male foreskin cannot be fully retracted from the head of the penis [4]. The combinations of urethral dilatation, hypoplasia penis and ectopic testis made this case interesting.

Researches on urethral diverticulum in goat kids are rather limited [7-10]. Alam et al.[12] reported that aplasia penis, undescended testis, bifid scrotum and ventral incomplete sheet were combined in three calves.

Urethral dilatation in goats can be combined with defects such as hermophradismus, cryptorchism and dilatation of vesica urinaria [1]. Temizsoylu [10] reported defects of urethral dilatation and phimosis in a goat. In the present study, urethral dilatation was combined with ectopic testis, hypoplasia penis, phimosis and insufficient closure in ventral cutaneal region located between anus and scrotum. These defects were also congenital.

Several studies reported that local swelling in urethral dilatation has a fluctuant character [6,10,11]. Urination is achieved by pressure on swelling and is painful. Our findings were in agreement with those demonstrated symptoms [6,10,11].

High pulse rate, normal temperature in a kid [10] and a calve [6] with urethral diverticulum were determined. Anderson et al.[13] reported that clinic parameters were between normal values in urethral diverticulum. In the current study, pulse rate was slightly tachycardic and other clinic parameters were in normal limits. Magda et al.[11] emphazised that the cases of urethral diverticulum can be formed prescrotal or postscrotal location. In our case, uretral dilatation was formed in the scrotal sac.

Several researchers [6,13] had suggested excision and perineal uretrostomy for the treatment of urethral dilatation. Urethral structures in small ruminants are usually treated by amputation or prophylactically [2,7-9,14]. Temizsoylu [10] treated urethral dilatation by urethrostomy; and phimosis by amputation of narrowed preputium. In our case, urethral diverticulum in the male goat kid was treated by uretrostomy. No treatment was considered to be necessary for hypoplasia penis, phimosis and ectopic testis due to infertility.

In the present case, urethral dilatation was surgically treated using excision and uretrostomy. No surgical manipulation was performed for hypoplasia penis, phimosis and ectopic testis.

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