



Scrotal Wounds Complicated with Urethral Rupture in Two Dogs*

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Abstract: The aim of this report is to evaluate clinical findings and treatment of infected scrotal wounds and traumatic urethral rupture in two dogs. The material of this report consists of two Kopay breed hunting dogs, aged 3.5 and 8, brought to the Adnan Menderes University, Faculty of Veterinary Medicine Surgery Clinic. In both cases, the wounds had been caused by a wild boar and an open, infected wound with seromucous discharge was present. The wound had laid both testes bare in the first dog, while in the second dog, only the right testis was present, the left without testis. It was detected that the urethra was ruptured in the scrotal area when a urinary catheter sent through external urethral orifice came out of the wound. Both cases underwent surgery to repair the urethra and to perform wound revision. In both cases, the catheters were left in place postoperatively until the postoperative 10th d. Follow-up examination indicated that both animals could urinate without any problems.

Keywords: Dog, Scrotal wound, Urethral rupture.

İki Köpekte Üretral Ruptur İle Komplike Skrotal Yara

Öz: Bu raporda, iki köpekte şekillenen açık, enfekte skrotum yarası ve üretral ruptur olgularının klinik bulguları ve sağaltımlarının değerlendirilmesi amaçlandı. Bu raporun materyalini Adnan Menderes Üniversitesi Veteriner Fakültesi Cerrahi Kliniği'ne getirilen 3.5 ve 8 yaşlarında Kopay ırkı iki av köpeği oluşturdu. Yaban domuzu yaralanması sonucu olduğu öğrenilen her iki olguda da skrotal bölgede seromükoz akıntılı açık enfekte yara görüldü. Birinci köpekte her iki testisin de açıkta olduğu belirlenirken ikinci olguda sağ testis açıkta, sol testisin ise olmadığı belirlendi. Funikulus spermaticum'un görülmesi ile bulunamayan sol testisin yaralanma sırasında koparak düşmüş olabileceği düşünüldü. Orifisyum ürethra externa'dan gönderilen idrar sondasının yaradan dışarı çıktığı gözlenerek, ürethranın skrotal bölgede koptuğu saptandı. Her iki olgu üretra'nın onarımı ve yara revizyonu için operasyona alındı. Operasyondan sonra üretraya sonda yerleştirildi ve postoperatif 10. günde sonda uzaklaştırıldı. Yapılan kontrollerde hayvanların idrarını rahatça yaptığı belirlendi.

Anahtar Kelimeler: Köpek, Skrotal yara, Üretral ruptur.

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INTRODUCTION

Urethral trauma occurs more commonly in male dogs than in female dogs because of the male animal's longer and more accessible urethra (1). Traumatic lesions of the urethra include contusion, laceration, rupture and obstruction. The causes of traumatic urethral rupture are numerous, but the overall incidence is low (2). Urethral rupture may occur following bites, firearm wounds, car accidents, urethral calculi or iatrogenic injury during urethral catheterisation or surgery (3,4). Clinical findings vary depending on the site, extent, severity, and duration of the lesion (1,5). Aside from history and clinical examination, diagnosis may be based on catheterization and, if necessary, imaging methods such as x-ray and ultrasound. Treatment is either conservative or surgical. Conservative treatment is indicated for minor urethral injuries such as contusion or minor lacerations. Surgical treatment is indicated for more severe urethral injuries (1,2,6).

This case report describes the use of an end-to-end urethral anastomosis to achieve permanent urinary diversion in two dogs following traumatic urethral rupture.

CASE REPORT

The material of this report consists of two Kopay breed hunting dogs, aged 3.5 and 8, brought to the Adnan Menderes University, Faculty of Veterinary Medicine Surgery Clinic over an interval of two years. In both cases, the dogs had been attacked by a wild boar and injured at different part of the body. Clinical examination showed a good general condition, while an open wound was observed in the scrotal area. Wound margins were irregular and oedematous. Seromucous discharge was present in the area. Both testes had been flayed in the first case, while only the right testis was present in the second dog (Figure 1). It was detected that the urethra was ruptured in the scrotal area when the urinary catheter was sent through the external urethral orifice and came out of the wound.

Both cases underwent surgery to repair the urethra and to perform wound revision. In both cases, endotracheal intubation followed the I.V. injection of propofol®, 6 mg/kg. Anaesthesia was continued with 3% isoflurane® inhalation.

Figure 1. Appearance of the scrotum before the operation (Case 2).

Şekil 1. Skrotumun operasyon öncesi görüntüsü (Olgu 2).



A urinary catheter, inserted into the external urethral orifice and exiting from the rupture, was re-introduced and advanced in the more distal part of the urethra. This procedure did not present any difficulty. The catheter was held stable and the two ruptured margins were anastomosed by single interrupted sutures over the catheter, using 4/0 polyglactin 910 (Vicryl®, Ethicon, Edinburgh, UK) (Figure 2). In both cases, testes were removed after the wound revision. The wound was closed with single, 0 (zero) thickness silk sutures (Silk® Kruuse) (Figure 3). The urethral catheter tip was fixed to the tip of preputium by two single sutures.

Postoperatively, antibacterial therapy was applied with aminoglycoside and beta-lactam antibiotic combination (Clemipen-strep®, Topkim, Istanbul, Turkey) for 10 d. The catheter and sutures were removed 10 d after the operation. The dogs were re-examined on the 10th d postoperatively (Figure 4). 3 months later, a personal telephone

interview with the owners revealed that they were able to urinate normally without any evidence of dysuria.

Figure 2. Urethral anastomosis during operation (Case 2).

Şekil 2. Operasyon sırasında üretral anastomos (Olgu 2).



Figure 3. Postoperative appearance of case 2.

Şekil 3. İkinci olgunun postoperatif görüntüsü.



Figure 4. Appearance postoperative 10th day of Case 2.

Şekil 4. İkinci olgunun postoperatif 10. gün görüntüsü.



DISCUSSION and CONCLUSION

Urethral rupture may occur following bites, firearm wounds, car accidents, urethral calculi or iatrogenic injury during urethral catheterisation or surgery (3,4). Traumatic injuries to the distal penis and urethra are the most common conditions. Surgical treatment is indicated for severe urethral injuries. Surgical procedures used to treat urethral injuries include: temporary or permanent urine diversion, wound debridement, suturing defects, and urethral anastomosis (5). The points to be observed during urethral anastomosis are readapting carefully the ruptured margins, using minimally reactive traction threads and avoiding excessive tension of the sutures (2,5). An open, infected scrotal wound and urethral rupture due to trauma by a wild boar had been found in the cases reported. Necrosis was not observed in wound margins. Urethral trauma in male dogs and cats occurs more frequently than in females (1,7). The fact that our cases, as both being male are compatible with the literature.

Traumatic urethral ruptures are most likely associated with fractures of the pubis or os penis in male animals (8). No fractures were found in the pelvic X-rays of our two cases. There are some reports that indwelling urinary catheters can cause trauma or bleeding in the urethra and urinary bladder and increase the risk of ascending infection; the use of antibiotic is recommended for the duration of catheterization (2,9). Antibiotics were used postoperatively for 10 d in both cases. No infection was observed in either case.

The most common postoperative complication is reported to be urethral stricture due to scar tissue formation following the healing of the anastomosis (1,10). Urethral stricture did not occur in this study in contrast with the result of another report.

It has already been recorded that urethral rupture in hunting dogs may be due to trauma by a wild boar (11,12). The fact that our both cases were due to trauma by wild boar is compatible with the published literature. Given the frequency of trauma to the testes following the encounters between hunting dogs and wild boars, an examination of the

testes and the scrotal area should be indicated and it will allow more rapid identification, treatment and proper operative intervention of urethral ruptures.

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