Case Report

SURGICAL MANAGEMENT OF HYDROCELE IN A KATHIAWARI STALLION: A CASE STUDY

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ABSTRACT

An 8-year-old Kathiawari stallion was presented to the Veterinary Clinical Complex, Veterinary College and Research Institute, Salem, with progressive scrotal swelling persisting for one week. General clinical examination revealed normal vital parameters, while external genital examination identified mild, soft swelling in both testicles. Ultrasonographic evaluation showed anechoic fluid accumulation between the testicular parenchyma and parietal tunica vaginalis, confirming hydrocele. Open-covered method of castration was performed under general anaesthesia. Postoperative management involved antibiotics, pain management and supportive care over three days. Recovery was uneventful, with no complications observed.

Keywords: General anaesthesia, Hydrocele, Stallion, Ultrasonography, Open-covered castration.

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INTRODUCTION

Hydrocele is the abnormal accumulation of serous fluid between the parietal and visceral tunica vaginalis surrounding the testicle (Youngquist and Threlfall, 2007). It often seen in high-humidity and temperature regions (Waqas *et al*., 2024).This condition also can arise from various etiological factors, including congenital defects, infections, trauma, parasitic infestations (Ortega-Ferrusola *et al.*, 2014). If left untreated, hydrocele can lead to testicular degeneration, reduced sperm production, and long-term infertility,

particularly in breeding stallions. Early diagnosis and appropriate management are crucial to prevent complications and ensure the stallion's reproductive health and performance. This case study presents the diagnosis, treatment, and management of hydrocele in a Kathiawari stallion, emphasizing the effectiveness of the open-covered castration technique.

CASE HISTORY AND OBSERVATION

An8-year-old Kathiawari stallion was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Salem, with a progressive scrotal swelling that had developed over one week. The owner reported no signs of discomfort, fever, or behavioral changes, but the increasing size of the scrotum raised concerns. The stallion had no history of trauma or systemic illness and maintained a normal appetite and activity level. Given the potentialfor chronic hydrocele to impair testicular function, a thorough clinical examination was conducted. On physical examination, the scrotum exhibited a soft, non-painful swelling that encompassed both testicles. The overlying skin was intact, with no signs of trauma, heat, or inflammation. The stallion showed no reluctance to movement, indicating minimal discomfort. Palpation revealed normal testicular shape and consistency, with no abnormal masses detected. The swelling did not fluctuate with changes in posture, ruling out herniation and supporting a diagnosis of non-communicating hydrocele. A comprehensive genital examination confirmed bilateral, non-painful swelling with no signs of infection or neoplasia. Ultrasonography revealed an anechoic fluid-filled space between the testicular parenchyma and the tunica albuginea (Figure 1) confirming the diagnosis of hydrocele (Love, 1992). The testicular echotexture appeared normal, suggesting no immediate impact on testicular function. Fecal analysis identified the presence of Strongylus spp.ova (Figure 2), indicating a parasitic burden that could contribute to increased peritoneal fluid production and subsequent hydrocele formation (Marino *et al*., 2009). Haematology and biochemical analyses showed no abnormalities, ruling out systemic infections or inflammatory conditions. These findings pointed to a chronic, non-inflammatory hydrocele, likely exacerbated by parasitic irritation.

TREATMENT AND DISCUSSION

Initial conservative management including anti-inflammatory therapy, deworming and hydrotherapy provided for one week, but no appreciable improvement noticed. Due to the persistent nature of the condition, surgical intervention was deemed necessary. Open-covered castration was performed under sedation and local anesthesia. Initially stallion was pre-anesthetized with Xylazine (1.1mg/kg) and Butorphanol (0.01mg/kg)and anaesthetic induction was achieved using Ketamine (2mg/kg) and Diazepam (0.1mg/kg) and anaesthetic maintenance with Triple drip combination (1-2ml/kg/hr). Local infiltration of 2% lignocaine hydrochloride was used to desensitize the surgical site

(Sarath *et al.,* 2025). After aseptically preparing the surgical site, the scrotum was incised to expose the testicles, and the spermatic cord was ligated (Figure 3) using a modified Miller's knot to ensure hemostasis andan emasculator was used to crush and sever the cord (Figure 4), and the surgical site was left open to heal by secondary intention, promoting drainage and reducing the risk of infection. Post-operative care included antibiotics, pain management, Tetanus Toxoid administration and regular wound monitoring. The stallion recovered without complications and returned to normal activity.

Hydrocele in stallions could result from inflammatory causes, such as infections or trauma, or non-inflammatory causes, including congenital defects or parasitic infestations not affecting the libido and semen quality (Henry *et al*., 2000). Chronic hydrocele can lead to testicular atrophy due to prolonged pressure on the testicular tissue (Youngquist and Threlfall, 2007). In the present case, Strongyloses irritation contributed to fluid accumulation in the vaginal tunic (Marino *et al*., 2009). While conservative treatments might suffice for mild cases, surgical intervention was often required for chronic or recurrent hydroceles. Open-covered castration provided a definitive solution by removing the source of fluid accumulation and preventing recurrence. Post-operative care was critical to ensure proper healing and avoid complications such as hemorrhage or infection.

It was concluded that the importance of early diagnosis and appropriate treatment were necessary for management of hydrocele in stallions. The combination of clinical examination, ultrasonography and fecal analysis helped to identify the underlying cause and guide treatment. Open-covered castration proved to be an effective and permanent solution eliminating the hydrocele and preventing recurrence. Implementation of proper parasite control measures was essential to minimize the risk of future reproductive complications.

Fig.1. Ultrasonography showing anechoic fluid accumulation between testicular parenchyma and tunica albuginea

Fig.2. Microscopic fecal examination shows Strongylus spp. Eggs (40X)

Fig.3. Ligating the Spermatic cord

Fig.4.Severing the spermatic cord with emasculator

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