Paraphimosis in a Mixed Breed Sheepdog Following Copulation and Sexual Activity

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ABSTRACT

Acute penile protrusion or paraphimosis was diagnosed in an entire five year old male mixed breed sheepdog. Conservative treatment by manual replacement of the penis was unsuccessful and the animal was treated by partial penile amputation and castration. Recovery was uneventful and no recurrence was observed in a six month follow up period.

Key words: Paraphimosis, Penile protrusion, Penile amputation, Castration, Dog.

Introduction

Penile protrusion or paraphimosis is the inability of the exteriorized penis to return to its normal anatomic position inside the prepuce. Both congenital and acquired causes can be held responsible for paraphimosis. Congenital causes include narrowing of the preputial orifice and abnormal shortening of prepuce while trauma, infection, priapism, penile hematoma, neoplasia, foreign bodies, masturbation and excessive sexual activity are amongst the acquired causes. Paraphimosis due to excessive sexual activity is usually seen in young male dogs [2,3].

The present article describes a case of paraphimosis in a middle aged male dog with a history of sexual activity and copulation with apparently no detectable penile abnormalities.

Materials and Methods

A five year old entire male mixed breed sheepdog was referred to the Small Animal Veterinary Hospital of the Islamic Azad University-Tabriz Branch, for further investigation and treatment of swollen penis. According to the owner, the dog had copulated with a female sheepdog eight days previously and soon after that the inability of the animal to retract the erect penis into the prepuce was noted. The animal had a successful breeding programme leading to fertilization in the previous years without any abnormalities.

On clinical examination, the dog had a painful stance with arched back and walked reluctantly. Rectal temperature and respiration were within normal limits but heart rate was slightly increased. Visual inspection revealed swollen, edematous and hyperemic penis protruding from the prepuce and a darkened area was noted in the center of the protruding penile tissue (Fig. 1). Haematologic and serum biochemical analysis revealed no abnormalities.
Conservative treatment by manual replacement of the penis into the prepuce was attempted after complete physical examination. Acepromazine (Alfasan, Woerden, Holland) 0.03 mg/kg body weight intramuscularly was injected as a tranquilizer to decrease anxiety and calm the animal. The protruding penile tissue was thoroughly cleansed with a mild antiseptic solution (chlorhexidine 0.05%) and saline. Flunixin meglumine (NASR Pharmaceutical Co., Fariman, Iran) was injected at a dose rate of 1 mg/kg body weight intramuscularly to reduce edema and pain. The penis and prepuce was carefully examined to detect possible tumors, foreign bodies and hematoma as the inciting causes of the condition. Immediate manual replacement of the penis back into the prepuce was not possible due to severe edema of the protruding tissue and treatment with flunixin was continued for 4 days. After this time, penile edema and swelling subsided slightly but necrosis of the penis was obviously evident because of the discoloration and dryness observed on the mucosa of the protruded tissue. After consulting with the owner, partial penile amputation and castration was performed to permanently treat the condition.

On the day of the surgery, Acepromazine, 0.03 mg/kg body weight intramuscularly was injected as a pre anaesthetic and anaesthesia induced with 2.5% solution of Thiopental (Sandoz GmbH, Kundl, Austria). After intubating the trachea, halothane in oxygen was used to maintain anaesthesia. Cefazolin (Logman Pharmaceutical Co., Tehran, Iran), 20 mg/kg body weight intravenously was injected at induction as a prophylactic antibiotic. With the animal placed in dorsal recumbency, a urinary catheter was placed in the urethra to facilitate orientation and prevent urethral trauma. The necrotic penis was completely extruded from the prepuce and a tourniquet was placed caudal to the amputation site on the penis to decrease hemorrhage. Two v shaped incisions were made through the tunica albuginea and cavernous tissue on the dorsal and ventral sides of the penis (Fig. 2). The os penis was transected with a bone cutter and the urethra was transected 1 cm cranial to the penile amputation site. Any bleeding vessels were ligated by 3/0 polyglactin 910 (Vicryl, Ethicon, USA) suture material after loosening the tourniquet. The edges of the urethral mucosa were spatulated and sutured to the edges of the tunica albuginea using 4/0 vicryl simple interrupted sutures. The redundant preputial tissue was shortened by making ventral and dorsal incisions and excising approximately the same length as the amputated penile tissue. Subcutaneous tissues and skin were sutured routinely. The animal was then castrated using the scrotal ablation technique. An Elizabethan collar was used after the surgery for 7 days to prevent self trauma. Analgesia was provided using Ketoprofen (NASR Pharmaceutical Co., Fariman, Iran) 2 mg/kg body weight every 12 hours for 3 days. Skin sutures were removed 10 days postoperatively. The animal recovered uneventfully and recurrence of paraphimosis or any other penile abnormalities were not observed during a six month follow up period.

The decision to treat paraphimosis conservatively or surgically depends to a large extent on the clinical signs and duration of the condition. Initially, the exposed penile tissue appears normal and is nonpainful [4,3]. Persistent exposure of the glans penis leads to congestion, discoloration and inflammation of tissue and impaired circulation. Trauma of the exposed tissues and persistent licking by the animal further exacerbate the problem, increasing the severity of edema and circulatory embarrassment. Chronically protruded penis becomes dry, fissured and cornified resulting in gangrene or necrosis in longstanding cases [2,4,3]. Conservative
Treatment is successful at the initial stages when necrosis and permanent penile damage has not occurred and penile circulation can be restored to normal by replacing the penis in the preputial cavity and returning the prepuce to its normal configuration [4].

Conservative treatment was attempted in this case because the owner was reluctant initially to approve undertaking surgery and penile amputation although penile necrosis was evident from initial inspection. However because of the longstanding nature of the condition of over a week and severity of edema and circulatory compromise, manual replacement of the penis into the prepuce was unsuccessful. Surgery was eventually undertaken with satisfactory results. The animal was castrated to prevent possible recurrence of the condition and sexual activity.

Several authors [2,4,6,1,5] have pointed out that paraphimosis is mostly due to erection and is therefore seen after semen collection or copulation, particularly in young male dogs. Sexual activity and mating can also be considered the inciting causes of paraphimosis in this particular case but the exact reason why paraphimosis occurred remains unclear as the animal was not a young dog and had previous successful matings without any untoward sequelae.

Conditions other than paraphimosis might also cause penile protrusion that must be differentiated from paraphimosis. Priapism or persistent erection without sexual activity does occur in small animals, due to neurological or circulatory defect. Priapism is distinguished from paraphimosis on the basis that the extruded penis can manually be replaced into the prepuce easily although with additional penile trauma and congestion this distinguishing feature is lost [2,5]. Penile trauma and hematoma may also cause the penis to protrude from the prepuce as does foreign material within the preputial cavity or around the glans penis [4]. Penile neoplasia especially transmissible venereal tumor (TVT) may also result in penile protrusion but this usually resolves after chemotherapy. Developmental conditions of the prepuce namely small preputial orifice and aplasia or hypoplasia of the prepuce can also cause penile protrusion. Chronic penile protrusion due to ineffectiveness of cranial preputial muscles has also been described [6].

None of the mentioned conditions were detected in the present case and it seems that this particular case of paraphimosis had an obvious relationship with sexual activity although the exact mechanism and cause of the condition remained unclear.

Fig. 3: Final appearance of the penis and prepuce following penile amputation.

References