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Unusual Case of Vaginal Prolapse in the Bitch, Including its Surgical Management

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Abstract An 16 month-old, female pug bitch was presented for treatment following complaint of protrusion of oedematous tissue through the vulva lips one week after the commencement of the oestrous cycle. Clinical examination revealed a pear-shaped vaginal mass measuring about 6 cm in diameter. The treatment involved surgical amputation of the protruding tissue. The dog had completely recovered after the treatment with no recurrence of prolapse.

Keywords Vaginal prolapse, Bitch, Surgical management.

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Introduction

Vaginal prolapse usually occurred in young intact bitches (less than 2 to 3 years of age) (Johnston et al. 2001). It has also been reported in an ovario-hysterectomized bitch (Nak et al. 2008). Pre-disposing factors of the prolapse include high estrogen flux during follicular phase, constipation, dystocia and parturition (Ober et al. 2016, Sarrafzadeh-Rezai et al. 2008). It occurs majorly near parturition, as the serum progesterone concentration declines and the serum estrogen concentration increases (Rani et al. 2004). This condition is less common in diestrus, anestrus and normal pregnancy (Johnston et al. 2001, Schaefers-Okkens 2001). Under the influence of high serum estrogen levels edematous swelling of the vaginal mucosa may develop (Johnston et al. 2001).This is accompanied by increased vaginal hyperemia and edema occurring during proestrus and estrus due to the estrogen stimulus (Schaefers-Okkens 2001). An amplification of this high serum estrogenic response can lead to disproportionate mucosal folding of the vaginal floor just cranial to the opening of urethra, which ultimately results in protrusion of vaginal mucosa from the vulva. The protruded mucosa can eventually become necrosed, inflamed and can easily be ruptured (Suresh Kumar et al. 2011). Vaginal fold prolapse is classified into 3 type based on degrees of severity. Type 1 prolapse shows slight to moderate eversion of vaginal mucosa cranial to the urethral opening; Type II prolapse demonstrates protrusion of the vaginal mucosa through the vulva labia; and Type III prolapse is recognized by complete protrusion of the entire circumference of the vaginal mucosa, often ac-

Fig.1

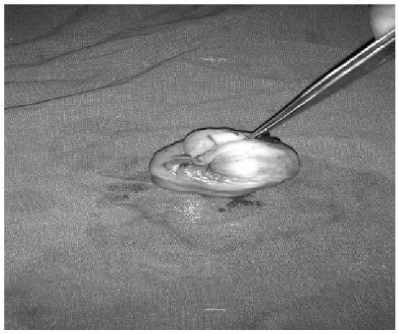

Fig.2

Fig.3

Fig. 1. Pear shaped mass of vaginal prolapse from the vulva of patient. **Fig. 2.** Resected vaginal mass. **Fig. 3.** After removal of prolapsed mass.

companied by exteriorization of the urethral orifice (Schaefers-Okkens 2001).

Most times, these conditions go unnoticed except in few where size of mass is big and visible outside, causing inconvenience while sitting on the floor. The various treatment modalities like hormonal therapy, surgical excision, and surgical excision with ovario-hysterectomy were available (Johnston et al. 2001), depend on the prolepses severities.

Materials and Methods

Case history and treatment

A 16 month-old female pug weighing 8 kg was presented to the teaching veterinary clinical complex, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura, with history of a protruded mass around the vulva which was observed by the owner a week following the onset of her first oestrous cycle (Fig. 1). The owner had noticed that the prolapsed mass was enlarging gradually. On examination, the rectal temperature, pulse and respiratory rates of the patient were within reference ranges. There were no clinically relevant symptoms including vomiting and bradycardia, and routine blood diagnosis including complete blood count and serum biochemistry profiles were found in normal limits. On clinical examination, a pear shaped vaginal mass measuring about 6 cm in diameter was seed protruding out of the vulva (Fig. 1). The glistening, pale pink protruded vaginal mucosa appeared severely enlarged and edematous. There was evidence of necrosis of the mass. Accord-

ing to the historical and physical examination findings, a type II vaginal prolapse was diagnosed.

Following the diagnostic evaluation of the bitch, the mass was cleaned with normal saline and an antibiotic ointment was applied to the exposed tissue, carefully pushed back into its normal position but prolapsed back after 1h. Thereafter, the mass was repositioned back and the vulva lips were partially sutured with purse string sutures so as to retain the mass inside and prevent desiccation and self-mutilation by the bitch. However, the prolapse re-occurred after 48 h. Thus, it was decided in carry out surgical resection of the mass.

Pre-operative administration of broad spectrum antibioties (ceftriaxone @ 25 mg/kg) and analgesic (meloxicam@ 0.5 mg/kg) was done. The dog was first pre-medicated with intramuscular injection of 0.03 mg/kg of stropine sulfate followed 20 min later with 2 mg/kg of aylazine hydrochloride. Thereafter, anaesthesia was induced with intramuscular injections of 10 mg/kg of ketamine hydrochloride. Following pre-medication, venous access was secured with a size 22 gauge intravenous catheter and the cardiovascular system supported with lactated Ringer's solution at a rate of 0.1 mL/kg/min.

Results

Following anaesthesia, the prolapsed vagina was rinsed with normal saline solution. With the animal positioned in sternal recumbency, hind limbs were draped over the end of the padded table. The tail was taped dorsally and the perineum was prepared for aseptic surgery. The mass is lifted off the vestibular floor to identify and catherize the urethra. Episiotomy was done to exteriorized the mass as much as possible. A urinary catheter was inserted into the urethra prior to the surgical removal of the redundant vaginal fold. The prolapsed portion of vagina was then carefully resected with a scalpel (Fig. 2). Care was taken not to occlude the vestibule. The bleeding was controlled by pressure, ligatures and electrocoagulation. The adjacent mucosal edges were then apposed with simple interrupted approximating sutures (2-0 polyglyconate) and the remaining vagina was reduced gently. The remnant of the vagina tissue was allowed to retract inward (Fig. 3). The urinary catheter was removed at the completion of the procedure. Recovery from anaesthesia was uneventful and no complications werte observed post-operatively.

Discussion

Vaginal prolapse mainly occur during proestrus or early estrous stages of the cycle (Johnston et al. 2001) and during or shortly after parturition (Schaefers-Okkens 2001). Increased abdominal pressure and excessive pelvic ligaments relaxation pre-dispose the animal for pre-partum prolapse (Markandeya et al. 2004). constipation, forced separation during mating and size incompatibility between breeding animals can also lead totrue vaginal prolapse (Purswell 2005) . Reports suggests that this condition may have some hereditary pre-disposition and is been seen in pure bred dogs (Johnston et al. 2001). Therefore, it is advised to ovariectomized the affected bitches and they should not be used for breeding purpose. vaginal prolapse usually occur during high serum estrogen concentration and is also connected with weakness of the perivulvar tissue of the bitch, Regression of the protruded mass begins in late estrus to early diestrus, as serum estrogen returns to the normal basal level (Alan et al. 2007). In the present case, reccurrence of prolapsed mass do not occur after the end of estrous phase.

References

Alan M, Cetin Y, Sendag S, Eski F (2007) True vagina prolapse in a bitch. Anim Reprod Sci 100: 411—414.

Johnston SD, Kustritz MVR, Olson PNS (2001) Disorders of the canine uterus and uterine tubes (Oviducts). Kersey R (ed). Canine and Feline Theriogenology. WB Saunders, Philadelphia, pp 206—224.

Markandeya NM, Patil AD, Bhikane AU (2004) Pre-partum vaginal prolapse in a dog. Ind Vet J 81 : 449.

Nak D, Nak Y, Yilmazbas G (2008) First report of vaginal prolapse in an ovario-hysterectomized bitch - a case report. Bull Vet Inst Pulawy 52 : 397—398.

Ober C, Pestean C, Bel L (2016) Vaginal prolapse with urinary bladder incarceration and consecutive irreducible rectal prolapse in a dog. Acta Veterinaria Scandinavica 58 : 54.

Purswell BJ (2005) Vaginal disorders. In : Ettinger SJ, Feldman EC (eds). Text book of Veterinary internal Medicine. 4th edn. WB Saunders, London, pp 1686—1690.

Rani RU, Kathiresan D, Sivaseelan S (2004) Vaginal fold

prolapse in a pregnant bitch and its surgical management. Ind Vet J 81 : 1390—1391.

Sarrafzadeh-Rezai F, Saifzadeh S, Mazaheri R, Behfar M (2008) First report of vaginal prolapse in a bitch treated with oestrogen. Anim Reprod Sci 106 : 194—199.

Schaefers-O kkens AC (2001) Vaginal edema and vaginal fold prolapse in the bitch, including surgical management. In: Recent Advances in Small Animal Reproduction IVIS, USA.

Suresh Kumar RVP, Veena P, Sankar N, Dhana Lakshmi CH, Sreelatha K (2011) Vaginal hyperplasia in a dog – a case report. Tamilnadu J Vet Anim Sci 7 : 174—175.