

Case report

A MODIFIED TECHNIQUE FOR PROLAPSED FOLD
EXCISION IN A BITCH WITH VAGINAL HYPERPLASIA

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Summary

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A case of vaginal hyperplasia type III in a bitch during oestrus was reported in a 10-month female Turkish Kangal. Surgical excision of prolapsed fold was performed by means of a modified operative technique. No recurrence of the hyperplasia has observed during the subsequent oestrus.

Key words: bitch, operative excision, vaginal hyperplasia

Vaginal hyperplasia, also known as vaginal hypertrophy, oestral hypertrophy, vaginal eversion and vaginal protrusion, is an eversion of oedematous vaginal tissue into the vaginal lumen or its prolapse through the vulva in bitches (Manothaiudom & Johnston, 1991). This condition could be observed during prooestrus and oestrus (Johnston *et al.*, 2001). It is related to the physiological increase in oestrogen levels in bitches during the follicular stage of the oestrus (Post *et al.*, 1991, Kochankov *et al.*, 1998). Vaginal prolapse has been also described in a bitch treated with oestradiol benzoate in order to induce oestrus (Sarrafzadeh-Rezaei *et al.*, 2008).

The condition is more frequently described in brachycephalic breeds, Drathhaar, Kurzhaar, Caucasian Shepherd, Doberman (Memon *et al.*, 1993, Georgiev *et*

al., 1998; Feldman *et al.*, 2004, Mostachio *et al.*, 2007). It is believed that the etiology could be hereditary (Wykes, 1986; Dejneka & Nizanski, 1994; Schaefer-Okkens, 2001). In Bulgaria, the disease is also commonly encountered (Georgiev *et al.*, 1998).

Three types of vaginal prolapse are described. In type I, the tissue does not reach the vulva and the state could be detected by vaginal exploration. In type II, the anterior ventral and part of the lateral walls of the vagina prolapse through the vulvar opening. The protruding mass is pear-shaped. In type III, there is a prolapse of the entire vaginal circumference with a doughnut appearance of the visible mass.

The hyperplasia could regress spontaneously during the dioestrus, but recurs in 66% to 100% of cases during the sub-

sequent oestrus (Johnston *et al.*, 2001). For prevention and to avoid recurrence, ovariectomy is recommended (Wykes, 1986; Post *et al.*, 1991). The treatment approach depends mainly on the prolapse type and on whether the animal would be bred. Because of the hereditary nature of the condition, bitches should preferably not be bred.

The therapy could be hormonal, by induction of ovulation and shortening of the oestrus with GnRH or HCG (Johnston *et al.*, 2001) or various operative techniques for removal of oedematous tissue could be used depending on the degree of the problem (Pettit, 1986; Soderberg, 1986).

A 10-month-old female Turkish Kangal has been referred to the Small Animal Clinic of the Faculty of Veterinary Medicine, Trakia University in Stara Zagora. The animal exhibited oestrus signs from one week (hyperaemic and oedematous vulva, bloody discharges), was restless and often licked the vulvar region. Two days before, a pink-reddish formation began to prolapse from the vulva, initially slowly and afterwards more and more rapidly. The urination was impaired. All necessary vaccination and antihelminthic treatments have been routinely performed.

The general physical examination showed no deviations from normal. During inspection of the vulva, a semispherical pink-reddish mass protruding through the opening, 12 cm in diameter, with a lumen in the middle was established. Ventrally, the external urethral orifice was observed (Fig. 1). On the mucous coat, there were necrotic discoloured areas. The cytovaginal smear confirmed that the animal was in oestrus.

On the basis of clinical and cytovaginal findings, the state was diagnosed as type III vaginal prolapse.



Fig. 1. Appearance of the patient on its referral in the clinic – type III vaginal prolapse, with necrotic areas on the mucous coat.

After routine preparation and premedication with atropine sulfate at 0.04 mg/kg s.c (Sopharma, Bulgaria), the induction of anaesthesia was performed with the combination of diazepam at 0.4 mg/kg, i.v (Alkaloid, Skopje) and ketamine hydrochloride at 10 mg/kg i.v (Ketaminol 10, Intervet). After intubation the anaesthesia was maintained with halothane (Narcotan, Zentiva). A surgical excision of hyperplastic tissue was performed as followed. The urethra was catheterized in order to avoid its damage by any of sutures. The oedematous vaginal mass was ligated with absorbable sutures in portions (Dexon №2, B.Braun-Dexon GmbH). Using a round-hole needle, two suture strands were inserted from the internal to the external surface of protruded mass in a way such that both free ends were outside its lumen. A second suture of the same type was inserted through the first loop at the centre of the formation and after that, its free ends were also brought to the outside. The procedure was then repeated until the first suture was

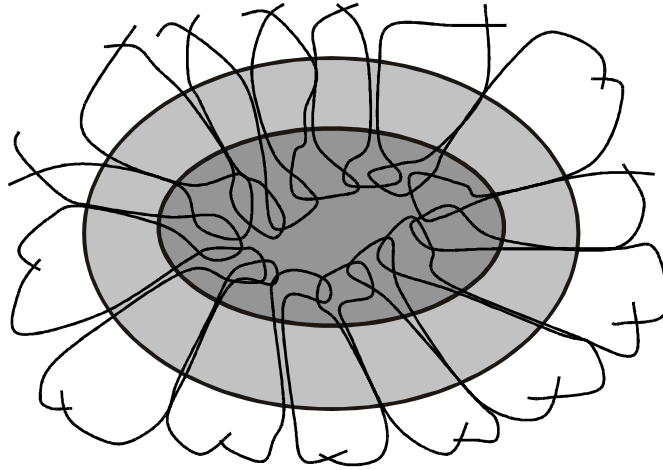


Fig. 2. A schematic presentation of ligatures prior to the excision of prolapsed vaginal tissue.

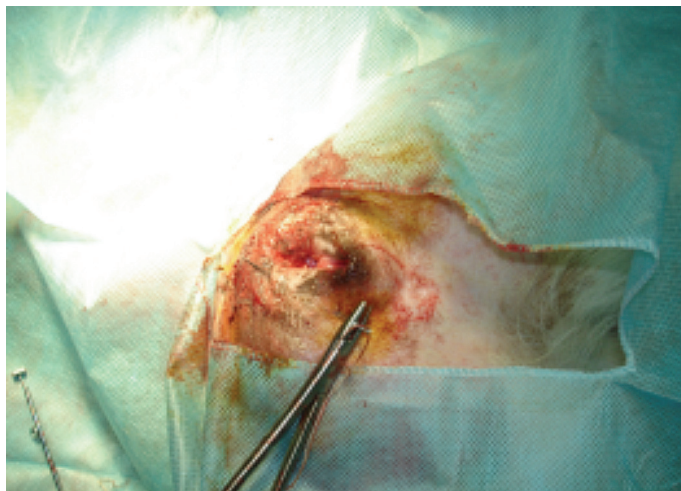


Fig. 3. Appearance of the patient after removal of prolapsed tissue and placement of the retention suture.

attained, then couples of one free end from two adjacent sutures were tied together in order to prevent bleeding (Fig. 2). The everted tissue was amputated. After the bleeding has been controlled, the vagina was washed with 0.1% rivanol

solution, the urethral catheter was removed and the formed stump was replaced. For retention inside the vagina, the vulva was closed with a Buhner suture (Fig. 3).

During the post operative period, antibiotic was applied parenterally (Lincomycin Spectinomycin 5/10, Alfasan International B.V., 1mL/10 kg, s.c.) together with an oral NSAID for pain relief (Ketofen tablets 20 mg, Merial S.A.S., France) for five days. An Elizabethan collar was placed. One week after the surgery, a control examination was performed. No complications were present, and the closing vulvar suture was removed. According to the owner, the urination and defaecation were normal and the animal was feeling good. The state did not recur during the next oestrus.

A primary requirement to each operative technique is the combination of easy performance and efficacy and a minimum risk (bleeding, injury of adjacent organs). In this report, we describe a simple technique for operative treatment of high-degree vaginal hyperplasia in the bitch, consisting in excision of prolapsed tissue. This is a modification of the technique described by Schaefer-Okkens (2001), where the oedematous vaginal tissue is also ligated in portions but by two individual sutures inserted from the centre to the outside. Then the free end of one of strands in the centre of the formation is inserted in the needle with another strand and brought to the outside. This procedure is repeated until all hyperplastic tissue is covered and then both ends of each suture set are tied.

In this case, surgical treatment was successful and castration was avoided because the owner wanted to preserve the reproductive ability of the animal. The prolapsed tissue was removed without any recurrence during the subsequent oestrus. After applying the technique in more patients and their follow-up for a prolonged time, we could present summarized results about its efficacy.

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