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Successful surgical management of vaginal fibroma in a pug: A case report

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Abstract
A five-year-old pluriparous pug was presented with the history of abnormal vaginal growth for the past two weeks. General clinical parameters were normal. Per vaginal examination revealed presence of hard mass on the vagina. Under general anaesthesia, the mass was surgically excised and post-operative care with antibiotics and analgesic was given for seven days. Histopathology revealed the mass as vaginal fibroma. The animal had uneventful recovery post-surgery after a week.

Keywords: Canine, vaginal fibroma, surgical resection, histopathology

Introduction
Tumors of canine female genital tract accounts for 3%. Around 85-90% of these tumours were located in the vulva, vagina and vestibule. Vaginal and vulval tumours are generally benign with good prognosis and surgical resection with proper ligation is the treatment of choice in order to maintain the urethral patency [1]. Fibroma is one of the vaginal tumour that are hard white spherical benign mass with mesenchymal neoplasm of fibroblasts and abundant collagenous stroma. They are basically of two types: The first category is soft fibromas that are often pedunculated, spongy, vascular, edematous which contain small amount of collagen. The second type is hard fibromas that are usually white dry cut surface with adult type fibrous connective tissue cells. Generally, the clinical signs include Vulval bleeding, licking, tenesmus, dysuria and hematuria [2].

Case history and observation
A five-year-old pluriparous pug weighing about 4.6 kgs was presented to the Small Animal Unit of VGO, Veterinary Clinical Complex, RIVER, with an abnormal vaginal growth for two weeks (Fig.1). The pug had its last proestral bleeding two months back which persisted for 5 days. Clinical examination of the dog revealed that all the vital parameters were within the physiological range. External observation of the genital tract revealed a small single, hard mass that was protruding through the vestibule. It was solitary in nature and circumscribed hanging from the vulva. Per vaginal examination revealed attachment of mass in the dorsal vaginal canal with a stalk. Based on history and per vaginal examination the case was tentatively diagnosed as vaginal tumour. It was decided to surgically remove the mass.

Treatment
The animal was premedicated using Inj. Atropine sulphate @ 0.045 mg/kg S/C, Inj. Tremadol 2 mg/kg S/C and sedated with Inj. Diazepam @ 0.5 mg/kg I/V and endotracheal intubation was done. Anaesthesia was induced with Inj. Ketamine 4 mg/kg I/V combined with Propofol @ 3.5 mg/kg I/V at 1:4 ratio and maintained with the same. Mass was retracted and urinary meatus was catheterized using infant feeding tube (Fig.2). Blood vessels supplying the mass were ligated with catgut size '0' and the mass was surgically excised (Fig.3). The cut edges were sutured with appositional suture pattern using catgut size '0' (Fig.4). Vaginal tampon soaked with haemocoagulase solution was placed intravaginally for two days. The dog was administered Inj. Cefotaxim 250 mg slow I/V. Postoperative care included Tab.

Cefotaxim 200 mg P.O., Tab. Meloxicam 2.5 mg BID P.O, Tab. Serratiopeptidase 10 mg BID and Multivitamin supplement 2 ml SID for another five days. The animal had uneventful recovery within five days post- surgery (Fig.6).

Results and Discussions

The collected vaginal mass was formalin-fixed and processed by routine paraffin-embedding technique. Further, the prepared sections were stained by Haematoxylin and Eosin (H&E). On incision, the cut surface was white in colour and hard in consistency. On histopathological examination, the mass revealed stratified squamous epithelium and interlacing bundles of fibroblast in the subepidermal region (Fig.5). Higher magnification showed neoplastic fibroblasts with large vesicular nuclei and prominent nucleoli (Fig.6). Based on histopathological examination, the mass was confirmed as vaginal fibroma.

In female dogs, vagina and vulva are the most common predilection sites for development of tumours when compared to ovary and uterus. Aged dogs are more prone to these vaginal tumours. Tumours of lower reproductive tract may cause obstruction to urethra and rectum extra luminally or intra-luminally [3]. Fibroma can be treated with Alperstein [4] and surgical approach includes episiotomy [5], complete surgical excision of the mass [6] or more aggressive surgical procedures such as vaginectomy, urethroplasty, and ventral pelvic osteotomy [7]. Prevention and control of the condition is best achieved by ovariohysterectomy which has to be done during anestrus. Differential diagnosis includes vaginal polyps, lipoma, leiomyoma, leiomyosarcoma, transmissible venereal tumour, lipoma and adenocarcinoma. These tumours may not interfere with fertility but may impede natural breeding and whelping, culminating in dystocia [8].

Fig 1: Pre-operative check up

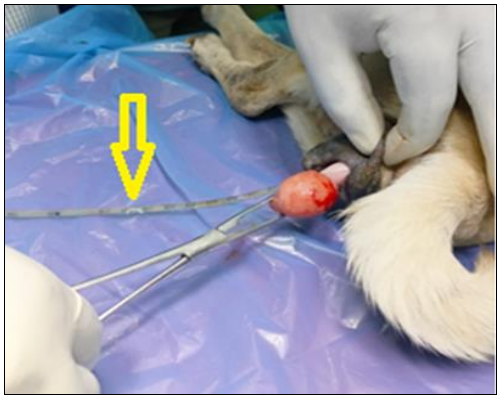

Fig 2: Catherization of urethra

Fig 3: Ligation and excision of mass

Fig 4: Suturing of cut edges of mass

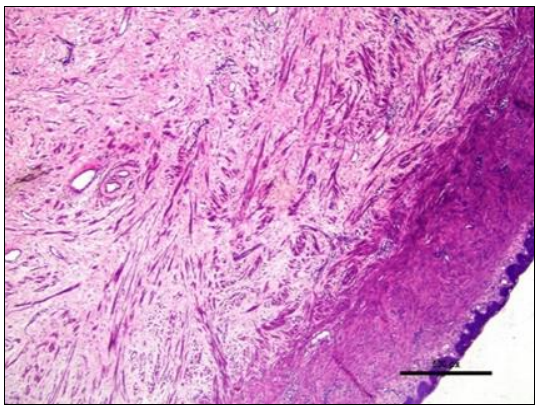

Fig 5: Bundles of fibroblast in sub epidermal region (H & E x4)

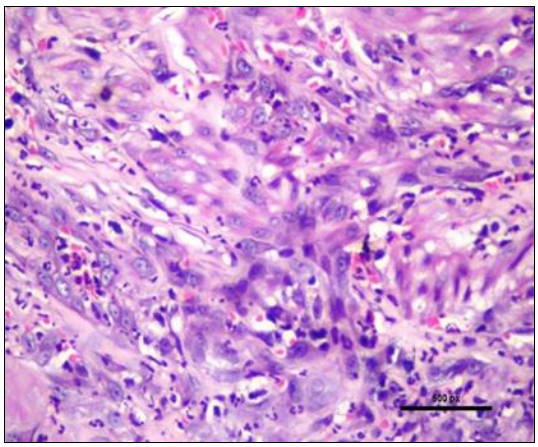

Fig 6: Fibroma- Proliferation of neoplastic fibroblasts with large vesicular nuclei and prominent nucleoli H&E x40

Conclusion

It can be concluded that vaginal fibroma can be easily managed by timely intervention and surgical resection without affecting the conception during the subsequent pregnancy.

Acknowledgement

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Conflict of Interest

The authors declare no conflict of interest.

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