

Surgical management of vaginal fibromyxoma in a bitch – a case report



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Abstract An eight-year-old, non-descriptive female dog that had not whelped before was presented to the Department of Veterinary Gynaecology and Obstetrics, Veterinary Clinical Complex, Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry with a history of protrusion of a large mass through the vulva since ten days. Clinical examination revealed a hyperemic and oedematous mass in the vagina protruding through the vulval lips. Macroscopically, it was relatively well-circumscribed and measured 13×11×9 cm. Based on the history and clinical examination, the growth was tentatively diagnosed as a vaginal tumour and was excised by following the standard operative procedure. The cut surface of the mass was white, hard, and sticky with mucinous exudate. Histopathology revealed spindle and stellate cells within a myxoid stroma, diagnosed as fibromyxoma. The animal made an uneventful recovery after the surgical treatment.

Keywords: bitch, fibromyxoma, vaginal mass

1. Introduction

Tumors of the lower reproductive tract are more common in bitches as compared to tumours of the upper reproductive tract (Saahithya et al 2018). Tumours of the genital tract account for 3% of all canine tumours; of this, 85-90% occur in the vulva, vagina, and vestibule (James et al 2012). Most canine vaginal or vulvar neoplasms are leiomyomas, leiomyosarcoma, fibroma, and transmissible venereal tumour (MacLachlan and Kennedy 2002). Other less common tumour types include lipoma, fibrous histiocytoma, benign melanoma, myxoma, myxofibroma, adenocarcinoma, hemangiosarcoma, osteosarcoma and epidermoid carcinoma (Corey et al 2013). Fibromyxoma is a rare benign connective tissue tumour of fibroblast/fibrocyte origin and has abundant mixed collagenous and myxomatous stroma (Prasath et al 2020). Fibromyxomas are similar to myxomas, as both myxomas and fibromyxomas exhibit a proliferation of primitive mesenchymal cells that produce an amorphous mucoid-rich intercellular matrix (Alhousami et al 2018). There are very few reports of fibromyxoma in dogs. This report aims to describe the clinical investigations, gross and histopathological findings, and surgical management of a vaginal fibromyxoma in a dog.

2. Case History and observation

An eight-year-old female mongrel dog was presented to the Department of Veterinary Gynaecology and Obstetrics, Veterinary Clinical Complex, Rajiv Gandhi Institute of Veterinary Education and Research, with a history of protrusion of a large mass through the vulva for ten days. The owner reported that the animal had proestral bleeding seven months back and had never been mated. The animal also had a history of frequent episodes of constipation. Clinical examination revealed a hyperemic and oedematous mass in the vagina protruding through the vulval lips (Figure 1). Macroscopically, the mass was relatively well circumscribed with no foci of necrosis or hemorrhage and measured 13×11×9 cm. The animal was dull and depressed, with a high rectal temperature (105 °F), congested mucous membrane, and swollen lymph nodes. Haematology revealed anaemia and leucocytosis with neutrophilia (Table 1).

Table 1 Haematological parameters of a female dog suffering from vaginal fibromyxoma.

Sl.no	Parameters	Observation	Normal value
1.	Haemoglobin (g/dL)	9.2	12-18
2.	Packed Cell Volume (%)	36	37-55
3.	Total Leucocyte Count (cells/cm)	24,600	12000-18000
4.	Neutrophils (%)	80	60-77
5.	Lymphocytes (%)	19	12-30
6.	Eosinophils (%)	1	2-10
7.	Monocytes (%)	-	3-10
8.	Basophils (%)	-	Rare



3. Treatment

The bitch was premedicated with Atropine sulphate @0.04mg/kg and Diazepam @0.5mg/kg IV. Under general anaesthesia with Ketamine @5mg/kg IV and Xylazine @0.5mg/kg IV, the urethra was catheterised, and a circumscribed incision was made around the vaginal mass. Ligation was done at the incision site to arrest bleeding, and the mass was excised. A vaginal tampon soaked with haemocoagulase solution was kept at the site to prevent further bleeding. Post-operative, Cefotaxime sodium @ 40mg/kg IV, Tramadol @2mg/kg IV, and 0.5ml of Haemocoagulase IV were administered. Follow-up included treatment with antibiotic (Cephalexin 600mg PO BID for five days), analgesic (Meloxicam 2.5mg BID PO for five days), and other supplements (Iron and Multivitamins). The cut surface of the excised mass was white, hard, and sticky with mucinous exudate. Histopathology revealed spindle fibroblasts arranged in interwoven bundles and slender to stellate shape pale staining cells in a myxoid matrix (Figures 2 and 3). No cellular pleomorphism or mitotic figures were observed. Based on these observations, the mass was diagnosed as Fibromyxoma. The animal made an uneventful recovery after the surgical treatment.



Figure 1 Gross image of the protruding mass from the vagina.

4. Discussion

Fibroma is a benign neoplasm of fibroblasts, and so is myxoma, but the latter is distinguished by its abundant myxoid matrix rich in mucopolysaccharides. Fibroma and myxoma are most often observed in dogs and cats (Goldschmidt and Hendrick 2002), but reports of fibromyxomas are rare. This paper reports surgical excision of vaginal fibromyxoma in an 8-year-old intact female with a history of frequent episodes of constipation. Tumours of the lower reproductive tract may obstruct the urethra and rectum extraluminally or intraluminally (Gupta et al 2014) and lead to difficulty in urination and constipation. These tumours may not affect fertility but may interfere with natural breeding and whelping, leading to dystocia (Al-Kenanny et al 2013). These tumours are usually seen in medium-aged, non-spayed dogs (Koestner and Higgins 2008). Vaginal tumours can be surgically treated by episiotomy, complete surgical excision of the mass, or more aggressive procedures such as vaginectomy, urethroplasty, and ventral pelvic osteotomy (Balamurugan et al 2021). Early diagnosis and prompt surgical therapy of fibromyxomas will prevent progression to malignancy, and recurrence and help in uneventful recovery.

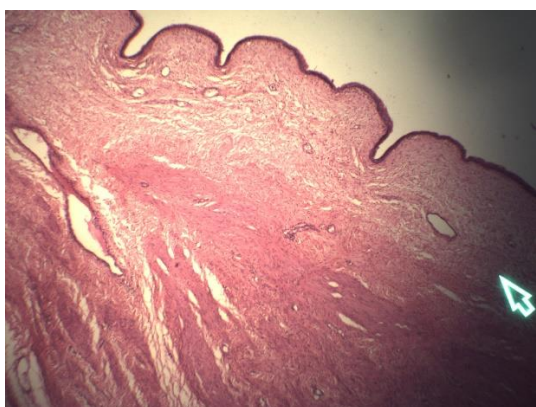


Figure 2 Histopathology revealed loosely arranged spindle-shaped mesenchymal cells. HNE, x40.

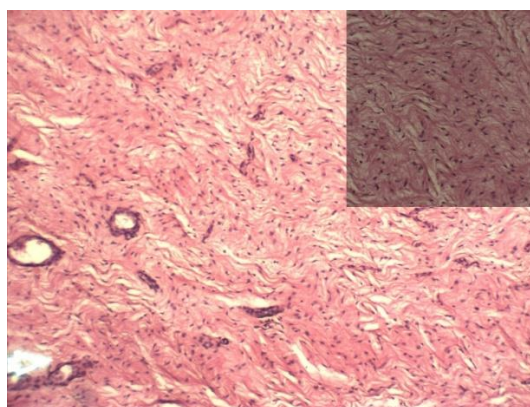


Figure 3 Higher magnification of Figure 2, showing spindle-shaped fibroblasts and stellate cells with blood vessels. HNE, x200 (Inset higher magnification HNE x400).

5. Conclusions

Vaginal tumours are commonly encountered in canines and timely intervention with therapeutic and surgical management will facilitate the animal to make an uneventful recovery.

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Ethical Considerations

It is not necessary since it was a clinical case report.

Conflict of Interest

The authors have no conflict of interest in this study.

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