

## **Vaginal Leiomyoma in a Crossbred Rottweiler Female Dog- a Case Report**

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### **Authors' contributions**

*This was carried out in collaboration among all authors. Author HAB designed the report and wrote the first manuscript. Authors N. Abubakar, N. Abdullahi and TH managed the literature searches. All authors read and approve the final manuscript.*

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### **Case Report**

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### **ABSTRACT**

**Aims:** To describe a vaginal leiomyoma in a five year old crossbred female dog and its surgical management by episiotomy.

**Case Presentation:** A five year old cross-breed female dog was presented to Aliyu Jodi Veterinary clinic sokoto-Nigeria with complaint of muscular tissue protruding out from the vaginal wall. Physical examination revealed a hard, firm, round nodular lesion on the left lateral vaginal wall caudal to the cervix and anterior to the urethral orifice extending caudally to a few centimeters away from the left vulval wall causing a gross distension of the vulval skin.

**Discussion:** Haematology and Histopathology result revealed normal PCV and leiomyoma. The animal was anaesthetized and the treatment was achieved by surgical excision of the mass via an episiotomy.

**Conclusion:** The article presents a rare case of vaginal leiomyoma in a five year old female dog. The management of this condition was carried out through surgical excision of the tumor mass with no post- operative complication in the present case.

**Keywords:** Dog; vagina; leiomyoma; episiotomy.

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## 1. INTRODUCTION

Leiomyoma is a benign tumor arising from smooth muscle of hollow organs; uterus, vagina, intestines, stomach, urinary bladder and esophagus and is common in cow, dogs and fowl [1]. Neoplasms of female tubular genitalia account for three per cent of all canine tumors, out of this 85 to 90 per cent occur in vagina and vulva [2]. Tumors of mesenchymal origin like leiomyomas, fibroleiomyomas and fibromas occur most commonly and leiomyosarcomas, lipomas, mastocytomas, adenocarcinomas, squamous cell carcinomas and transmissible venereal tumors occur much less frequently [3]. The incidence of leiomyomas is highest between five and 16 years of age [1,4].

Leiomyomas of the reproductive tract in the bitch are frequently associated with estrogen secreting tumors or ovarian follicular cysts [3]. Cystic endometrial hyperplasia, mammary hyperplasia and/or neoplasia may also be concurrently found [5]. The role of estrogens in the etiology of leiomyomas is unclear; but there has been speculation that the transition from hyperplastic to neoplastic tissue may constitute stages in reproductive tract tumorigenesis in the female, in which the estrogens act as the stimulating factor [6].

Vaginal leiomyomas may be single or multiple, intraluminal or extra luminal. The tumor is usually round or oval, well defined and encapsulated. The size and consistency may vary depending upon duration of growth, becoming firmer due to an increase in connective tissue. Large intraluminal tumors may protrude through the vulva, while extra luminal tumors tend to cause perineal swelling. At this stage the tumor may impinge upon the urethra causing the animal to show signs of dysuria, constipation and tenesmus [7]. The present paper describes the successful surgical management of vaginal leiomyoma in a female cross bred female dog.

## 2. CASE PRESENTATION AND MANAGEMENT

A five year old crossbred Rottweiler female dog was presented to Aliyu Jodi Veterinary Clinic Sokoto-Nigeria with chief complaint of a protruding tissue mass from the vagina. The anomaly was observed few days after whelping about 3 months ago. The swelling was said to start as a small nodule and kept on increasing in size with time and sometimes it bleeds when the

bitch "sits on the ground". However the mass was said to have no interference with urination.

Physical examination findings revealed a hard, firm, round nodular lesion on the left lateral vaginal wall caudal to the cervix and anterior to the urethral orifice extending caudally to a 2 centimeters away from the left vulval wall causing a gross distension of the vulval skin, the mass was pinkish with ulcerated surfaces that are mildly hemorrhagic. The condition was tentatively diagnosed to be vaginal leiomyoma. The differential diagnosis was vaginal fold prolapse or hyperplasia of the vaginal floor. But vaginal hyperplasia is associated with proestrus and estrus during which the vestibular and vaginal mucosae normally become swollen, thickened, and turgid. Exaggeration of this estrogenic response occasionally leads to the development of transverse mucosal fold on the floor of the vagina just cranial to the external urethral orifice. It protrudes between the labia of the vulva as a red, fleshy doughnut-shaped mass, and spontaneous regression occurs during metestrus [8].



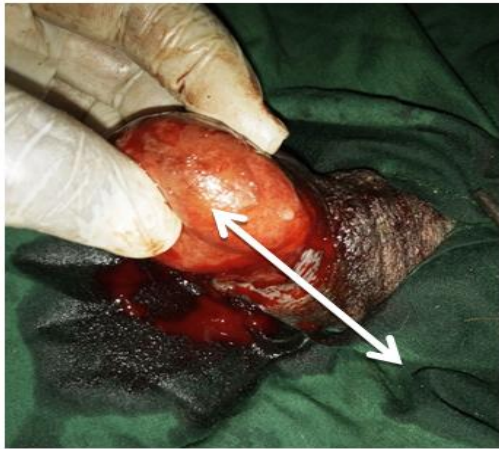
**Fig. 1. Examination of the mass on presentation to the clinic**

Following general anesthesia and aseptic surgical preparations; the patient was placed on sternal recumbency, an episiotomy incision was made at about 12 o'clock relative to the dorsal commissure of the vulva to expose and easily visualize the mass which was observed to be firm, smooth and oval submucosal growth that has a defined base attached to the lateral vaginal wall. The mass was exteriorized and excised and tissue biopsy (fixed in 10% formalin) was taken for histopathology. Closure of the incision was achieved by apposing the vaginal mucosa and occluding submucosal dead space using size 2-0

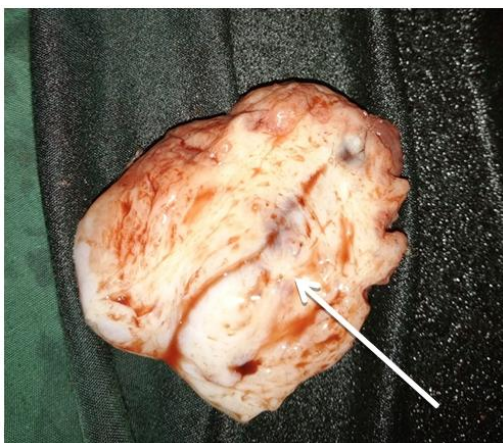
chromic catgut with continuous pattern. The episiotomy was closed using size 1-0 nylon with simple interrupted pattern.

The patient was placed on penstrep® (procaine Penicillin 200 mg and dihydrostreptomycin sulphate 200 g) at dose rate of 20 mg per kg for 5/7 days I.M and diclofenac at 2.5 mg per kg 5/7days I.M respectively.

Haematology and Histopathology revealed PCV of 37% and severe smooth muscle tissue proliferation which confirms vaginal leiomyoma. The dog recovered smoothly from anesthesia after the surgery. No post-operative complications were observed. The surgical site healed completely after two weeks and sutures were removed.



**Fig. 2. A photograph, showing the mass and prepared surgical site draped**



**Fig. 3. A photograph of excised tumor mass**



**Fig. 4. A photograph of closure of skin/suture**

### 3. DISCUSSION

As seen in this case, treatment of vaginal leiomyomas primarily involves surgical excision of the mass. In earlier study surgical management of Vaginal leiomyoma was reported in a seven year old heeler female bitch, where the mass was hard, firm, round and nodular in shape was removed via episiotomy [3]. Because most tumors originate from the smooth muscle wall of the vagina or vestibule and can be removed through vulva but episiotomy may be necessary for larger tumors [9]. Some authors believe that excision of the vaginal leiomyoma is curative [10], the condition usually recur due to hormonal influence. Ovariohysterectomy is the best method of prevention and control of the disease [11]. In this present case, ovariohysterectomy was not carried out but recommended for the bitch to the owner.

### 4. CONCLUSION

The article presents a rare case of vaginal leiomyoma in a five year old crossbred Rottweiler female dog. Surgical excision was carried out through episiotomy incision with no post-operative complication.

### ETHICAL APPROVAL

As per international standard or university standard ethical approval has been collected and preserved by the authors.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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