

## **Surgical excision of leiomyosarcoma in a Pomeranian dog**

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**Abstract:** Leiomyosarcoma of somatic soft tissues, like other soft tissue sarcomas, often present as an enlarging, painless mass. Leiomyosarcoma is an aggressive soft tissue sarcoma derived from smooth muscle cells typically of uterine, gastrointestinal or soft tissue origin. An 11 yrs old Pomeranian dog with a vaginal mass was excised under Xylazine and Ketamine Anaesthesia and it was diagnosed as Leiomyosarcoma based on histopathology.

**Keywords:** Leiomyosarcoma, vaginal mass, dog

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### **INTRODUCTION**

Leiomyosarcoma of somatic soft tissues, like other soft tissue sarcomas, often present as an enlarging, painless mass. Leiomyosarcoma is an aggressive soft tissue sarcoma derived from smooth muscle cells typically of uterine, gastrointestinal or soft tissue origin [1]. Sarcomas are malignant tumors arising from mesenchymal cell lines. They comprise a heterogeneous group of cancers, each with unique clinical, histologic, and radiographic characteristics. Soft tissue sarcomas account for 0.7% of malignancies. Sarcomas are generally classified according to the normal cell line that they most closely resemble. Although these tumors

are generally associated with small blood vessels, they usually do not present with signs or symptoms of vascular compression.

### **CASE HISTORY AND CLINICAL SIGNS**

An 11 yrs old Pomeranian dog was presented to the Department of Surgery and Radiology, C.V.Sc., Tirupati with a history of mass at the vagina (fig 1) that was progressively increasing in size for a period of six months. The mass was around 8cms in diameter. All the haematological and the biochemical parameters were in normal range. FNAC showed cells arranged in fascicles with admixture of dispersed cells and stripped nuclei.



**Fig 1: Mass at the vagina**



**Fig 2: Lump of mass on lateral wall of vagina**

### TREATMENT AND DISCUSSION

The animal was prepared for aseptic surgery. Patency of the urethral lumen was maintained. The dog was premedicated with Atropine sulphate @0.04mg/kg bwt and sedated with Xylazine@1mg/kgbwt. General anaesthesia was maintained with Ketamine and diazepam anaesthesia, @5mg and 0.5mg/kgbwt respectively. After removing the external mass, another lump of mass was identified (fig. 2) at the lateral wall of vagina and it was also excised. The animal was kept on Intacef 350mg and Melonex 1ml for a period of 5 days. The animal was active and no reoccurrence was observed for a period of 6 months under study.

The histologic appearance of leiomyosarcoma of soft tissue exhibits significant variability. Typical features include a highly cellular field, with abundant pink to deep red cytoplasm on H&E staining. Cells are arranged in fascicles, and in well-differentiated tumors these fascicles are often arranged at right angles, allowing identification of both longitudinal and cross-sectional areas within one field. The nuclei are usually centrally located, and are classically described as cigar-shaped. One of the key features is the presence of myofibrils that are longitudinal and run the length of the cell.

The most common site of leiomyosarcoma of soft tissue is the retroperitoneum, accounting for 50% of all cases. Smooth muscle sarcomas arising from the

abdominal viscera or uterus are considered to be distinct disease entities [3]. Leiomyosarcoma is an aggressive sarcoma that can arise in a number of locations. Of all soft tissue sarcomas, approximately 5-10% is leiomyosarcomas [2]. There are no specific clinical features diagnostic of leiomyosarcoma of soft tissue that distinguish these tumors from other soft tissue sarcomas.

### CONCLUSION

Although advances have been made in treatment protocols, leiomyosarcoma remains one of the more difficult soft-tissue sarcomas to treat. Accurate diagnosis, classification, and multi-modality treatment by physicians who are familiar with these tumors are essential to favorable outcome.

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