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### **Cervico-Vaginal Multiple Leiomyomas in a Labrador Dog: A Case Report**

V. S. Dhoke, Madhuri Hedau\* and M. V. Joshi

Department of Veterinary Pathology, PGIVAS

Maharashtra Animal and Fishery Sciences University

Akola 444 104 M.S. INDIA

**Corresponding Author:** [drmsshedau@rediffmail.com](mailto:drmsshedau@rediffmail.com)

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Leiomyomas are common in the canine female reproductive tract and accounts for 2.4% of all canine neoplasms (Hulland, 1978). Primary vaginal tumors are rare. They are usually secondary to either cervical or vulval lesions. In the vagina, leiomyoma usually presents as a solid single nodule mostly, firm consistency, brown color. In bitches, the tumor appears at middle and old age. Preoperative diagnosis of leiomyoma is challenging. Therefore leiomyoma is often diagnosed during postoperative histologic evaluation. Despite this, there are very few reports of them, apart from occasional surgical or clinical articles. The aim of this paper is to report a case of cervico-vaginal multiple leiomyoma in Labrador bitch.

#### **Case History and Clinical Observations**

A multiparous, 8 year old Labrador bitch was referred to the Small animal private clinic at Sangli, Maharashtra with history of perineal swelling, abdominal straining and difficulty in defecating. This dog had intermittent bleeding and vaginal discharge since one month. On clinical examination, congested vulva with mucoid discharge was observed. After thorough examination hard stools along with bone pieces with impacted material removed from the rectum with pressed rectal wall from vagina. Per vaginal examination revealed hard tumor almost entirely comprising vaginal passage and extending towards cervix with multiple nodular growth. Animal was operated for laparotomy. On opening uterine wall, multiple nodular growths about 4-6 cm (4 X 3 X 2 cm) in diameter were observed on cervix and vagina with severe congestion and haemorrhages (Fig. 1). All tumor growths were found to be capsulated. Cut section of growth has grey, white pedunculated mass with firm appearance and having areas of cystic degeneration and hemorrhages. All tumor growths were successfully removed along with cervix and uterus. A tissue from 1.7 X 1.2 X 1.5 cm cervical mass was fixed in 10% buffered formalin, processed for routine histopathology, 5 µm sections were cut, stained with Hematoxylin-Eosin and examined under light microscopy.

#### **Results and Discussion**

On microscopic observations, section showed circumscribed mass lesions composed of spindle shaped cells with elongated blunt ended nuclei (Fig. 2) and eosinophilic cytoplasm arranged in interlacing bundles (Fig. 3). Much desmoplasia and area of cystic degeneration were also observed in focal areas. Mitotic figures were absent and there was no evidence of malignancy. On the basis

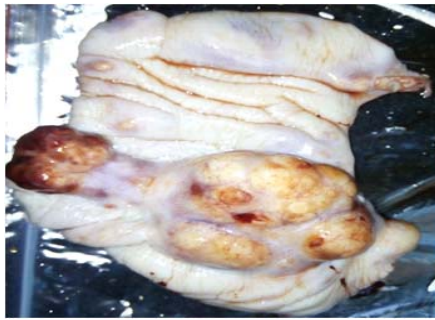


Fig. 1. Leiomyoma arising from the cervix and vagina of a bitch showing multiple nodular growths (Arrows).

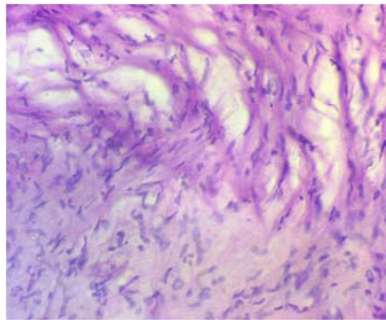


Fig.2. Section showing circumscribed mass lesions composed of spindle shaped cells with elongated blunt ended nuclei. H & Ex400

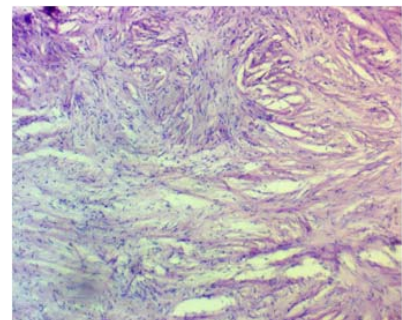


Fig.3. Section showing eosinophilic cytoplasm arranged in interlacing bundles H&Ex200.

of gross and histopathologic observations, tumor was identified as leiomyoma originating from cervix and vagina. About 85% of leiomyomas occurring in the reproductive tract of the bitch arise from the vagina, vestibule and vulva. Leiomyoma in the present case occurred in multiparous bitch of 8 years which were multiple. MacLachlan (2002) reported leiomyoma in dogs as hormone dependent and does not occur in spayed dogs. Bitches castrated at a young age do not develop leiomyoma, and in subjects with leiomyomas, the disease regresses after castration. The neoplasms are single or multiple, and are seen almost exclusively in entire bitches. This has led to the suggestion that smooth muscle tumours may be hormonally responsive (Vermeirsch *et al.*, 2002). Similar findings of multiple leiomyomas in a bitch in the uterus, cervix and vagina have been reported by Ozmen *et al.* (2008), however, Millan *et al.* (2007) and Mudasir (2010) reported a single leiomyoma of the cervix and single leiomyoma of vagina in a nine year old Pomeranian bitch. In the present case, straining or intermittent bleeding was observed. In this case, the tumor extended cranially and caudally into the uterus and vagina, respectively; suggesting that the straining was caused by the pressure of the mass on the pelvic inlet and bleeding was probably due to the total intravaginal location of the neoplasm.

**Conflict of Interest:** All authors declare no conflict of interest.

#### References :

- Hulland, T.J. (1978) Tumors in domestic animals 2<sup>nd</sup> ed. Berkely University of California Press.75-88.
- MacLachlan, N. J. and Kennedy, P. C. (2002). Tumors in domestic animals.4th edn.Iowa State Press, Ames Iowa.561.
- Millan, Y., Gordon, A., Espinosa, M. A., Reymundo, C. and Martin, M. J. (2007) *J Comp Pathol.* 136: 197-201.
- Mudasir, Q., Shukla, S. P., Nema, S. P. and Ali, R. (2010) *Indian Journal of Field Veterinarians.* 5(4):70.
- Ozmen, O., Haligur, M. and Kocamuftuoglu, M. (2008) *Reprod Dom Animal.* 43 (3): 377–381.
- Vermeirsch, H., Van den Broeck, W. and Simoens, P. (2002) *Reprod Fertil Dev.* 14(3-4): 251-258.

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