

VAGINAL LEIOMYOMA IN A HOLSTEIN FRIESIAN COW: A CASE REPORT

A. A. MALIK*, R. HABIB, T. MUSHTAQ, P. GOSWAMI¹ and D. RASHIDDivision of Animal Reproduction, Gynaecology and Obstetrics, ¹Division of Veterinary Pathology, Faculty of Veterinary Sciences and Animal Husbandry, SKUAST- K, Srinagar-190006, India

Received: 09.03.2020; Accepted: 15.04.2020

SUMMARY

A four year old Holstein Friesian cow in her second parity was presented with the history of vaginal mass and little vaginal bloody discharge from past ten days. Per vaginal examination confirmed the presence of small mass prolapsed through vulva. The growth was excised and sent for histopathological examination. Based on arrangement of collagen fibres and interlocking bundles of connective tissue fibres and cells, the growth was interpreted as collagenous leiomyoma and was surgically excised without any post-operative complication.

Keywords: Histopathology, Holstein Friesian cow, Leiomyoma, Vagina tumor

Leiomyoma is a benign tumour arising from smooth muscles of hollow organs like uterus, vagina, urinary bladder and oesophagus (Bondiga *et al.*, 2019). The abattoir studies have found low occurrence of leiomyoma representing only 1-2% of all neoplasia in cattle, sheep and swine (Berezowski, 2002). However, these are one of the most commonly encountered tumours of the female reproductive system in almost all domestic species (Sharma *et al.*, 2012). There have been few reports of this neoplasm in cow (Ramadan *et al.*, 1993, Sendag *et al.*, 2008). Leiomyoma of genitalia occur more frequently in females than males (Sharma *et al.*, 2012). These tumors have no direct relation to fertility but interference with breeding and parturition has been documented. In addition, they may also be associated with dystocia. Most of the tumour reported have been found pedunculated (Musal *et al.*, 2007; Noakes *et al.*, 2019).

A four year old Holstein Friesian cow in its second parity was presented to Veterinary Clinical Complex, F.V.Sc & A.H, Shuhama, Srinagar with the history of vaginal mass protruding through the vulva and little blood discharge (Fig. 1). The animal had good body condition, appetite was normal with physiological parameters including temperature (102.0 °F), respiration (22/min) and pulse rate (72/min) within normal range. The nodular mass was protruding through the vulvar lips. The vernier caliper method was used to measure the mass. The extirpated mass was 40 x 20 mm with well-defined neck and located in the right ventrolateral aspect of the caudal vagina. Rectal examination did not reveal any palpable growth in other parts of the reproductive tract. On palpation, the mass was hard in consistency and with depicted lobulations. Based on clinical findings, it was tentatively diagnosed as vaginal

tumour and was decided to go for surgical excision of tumour.

The animal was restrained in travis in standing position. The animal was prepared for surgery aseptically. The mass was washed with 1% potassium permanganate solution. The animal was given epidural anaesthesia with 4 ml of 2% of lignocaine hydrochloride. The vaginal lips were clamped by artery forceps so that growth was completely exteriorized. The mass was held tightly with tissue forceps. The mass was surgically excised using BP blade. The vaginal wound was sutured by continous lock stitch suture pattern using chromic catgut No. 2. The mass was fixed in 10% formalin and sent for histopathological examination. Post-operatively, the animal was put on Ceftriaxone (10 mg/kg BW IM) and Meloxicam (0.5 mg/kg BW IM) for 3 days and was discharged. The animal was followed for four months and showed no complications. The animal showed signs of estrus subsequently and was inseminated. Two months later, pregnancy was confirmed by per-rectal examination.

Hematoxylin and Eosin staining of sections of the excised mass revealed myxomatous appearance and collagen fibres as hyalinised in major part of the tissues. The tissue revealed whorls and interlocking bundles of connective tissue fibres and cells. The cells in few areas were composed of interlacing bundles of smooth muscle fibres with acidophilic cytoplasm and elongated, cigar shaped and round blunting nuclei giving diagnostic feature of leiomyoma admixing collagenous tissue (Fig. 2). Based on the histopathology, it was interpreted as collagenous leiomyoma of vagina.

The etiology of the leiomyoma of reproductive tract is not clearly known (Sendag *et al.*, 2008). Leiomyoma can

*Corresponding author: malikasloob@gmail.com



Fig. 1. Vaginal mass protruding through the vulvar lips.

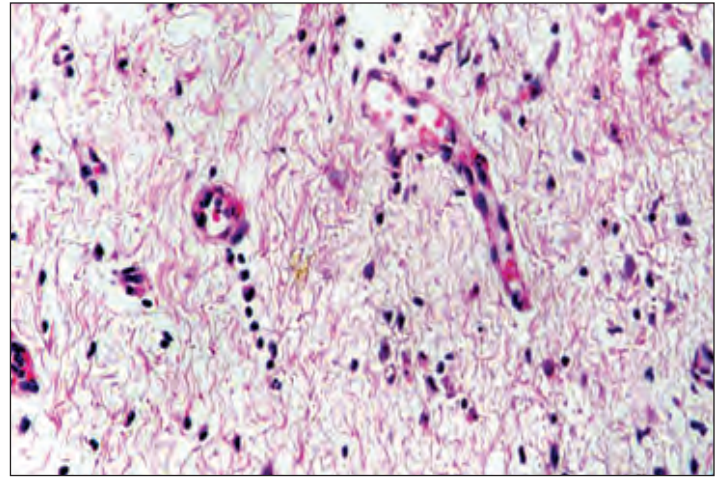


Fig. 2. Whorls and interlocking bundles of connective tissue fibres and cells.

reach upto size of 10-12 cm grossly without being invasive. Initially the tumour is small with fleshy consistency and as it develops becomes firm due to strong connective tissue (Meuten, 2002). Most of the times leiomyoma projects as nodular mass into uterine, vaginal or cervical lumen (Kennedy and Miller, 1993). They may alter reproductive function and if large may obstruct vaginal passage (Musal *et al.*, 2007). The most common clinical sign of vaginal leiomyoma is protruding mass with blood discharge. There is no evidence supporting the hormonal cause for vaginal leiomyoma (Meuten, 2002). Microscopically, leiomyoma consists of plain muscles bundles arranged in all directions. The muscle fibres are spindle shaped with centrally located nucleus running in all directions (Kennedy and Miller, 1993). The mass consists of neoplastic cells of smooth muscle differentiation with varying amounts of connective tissue and lacks glandular component (Sharma *et al.*, 2012). The aim of reporting this case is that the vaginal leiomyomas are treatable and does not affect the performance and subsequent fertility of animal if timely managed.

REFERENCES

- Berezowski, C. (2002). Diagnosis of a uterine leiomyoma using hysteroscopy and a partial ovario-hysterectomy in a mare. *Canadian Vet. J.* **43**: 968-970.
- Bodinga, H.A., Abubakar, N., Abdullahi, N. and Hassan, T. (2019). Vaginal leiomyoma in a crossbred Rottweiler female dog-a case report. *Asian J. Res. Anim. Vet. Sci.* **3**(3): 1-4.
- Kennedy, P.C. and Miller, R.B. (1993). *The Female Genital System: Pathology of Domestic Animals*. Academic Press, New York, USA. pp. 349-470.
- Meuten, J. D. (2002). *Tumors in domestic animals*. (4th Edn.), Blackwell Publishing Company, Iowa State Press, USA. p. 334.
- Musal, B., Ulutas, P. and Aydogan, A. (2007). Vaginal fibrosarcoma in a cow. *Irish Vet. J.* **60**: 424-425.
- Noakes, D. E., Parkinson, T. J. and England, G.C.W. (2019). *Veterinary Reproduction and Obstetrics*. Edn, Elsevier Publishers.
- Ramadan, R.O., Abu-El Fadl, W.S., El-Hassan, A.M., Bindary, M. and Gomaa, A. (1993). Vaginal leiomyoma in a cow. *Reprod. Domest. Anim.* **28**: 39-43.
- Sendag, S., Cetina, Y., Alana, M., Ilhana, F., Eskia, F. and Wehrendb, A. (2008). Cervical leiomyoma in a dairy cattle. *Anim. Reprod. Sci.* **103**: 355.
- Sharma, A., Kumar, A., Imran, S., Pankaj, S. and Asrani, R.K. (2012). Ultrasonographic, surgical and histopathological findings of a uterine leiomyoma in a cow. *Case Reports Vet. Med.* **10**: doi.org /10.1155/2012/536204.