

SURGICAL MANAGEMENT OF UTERO-VAGINAL LEIOMYOMA AND ENDOMETRIAL CYSTIC POLYP IN A LABRADOR RETRIEVER DOG

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[Received: 19.10.2022; Accepted: 25.04.2023]

{DOI 10.29005/IJCP.2023.15.1.31-34}

Canines are inclined to the lethal effects of sex steroids like prolonged exposure to progesterone and/or oestradiol that results in reproductive tract and ovarian tumours as well as cystic endometrial hyperplasia-pyometra complex. This report highlights the concurrent occurrence of vaginal and uterine leiomyoma along with endometrial cystic polyp in a nulliparous dog. Following no response to medical management with mifepristone, surgical management was resorted to resolve the problem. Histopathological reports of the ovarian structures confirmed luteinized follicles which could be attributed to the reproductive tract pathologies encountered in this dog.

Keywords: Leiomyoma, Endometrial polyp, Luteinized follicle.

Neoplasms of genital tract account for around three per cent of canine tumours. Majority of the tumours arising from genital tract of dogs are benign mesenchymal tumours such as leiomyomas or fibromas. These tumours are non-invasive, slow-growing, smooth muscle derived masses which has no property of metastasis (Klein, 2007). It generally sprouts from muscles of hollow organs like uterus, vagina, intestines, stomach, urinary bladder and oesophagus. Uterine leiomyomas offer a good prognosis with successful surgical excision due to the benign nature. Surgical excision of vaginal masses through episiotomy is considered as the treatment of choice for vaginal leiomyoma (Nelissen and White, 2012). However, due to the risk of performing extensive episiotomy especially in old aged animals, medical therapy with steroidal hormones receptor antagonists or surgical ovariectomy is also suggested. Endometrial polyps are focal tumour like growth, which are broad-based, pedunculated, proliferative growths that project into the uterine lumen. They possess an epithelial covering inside which contain benign cystic endometrial glands in a vascularized connective tissue stroma (Kennedy *et al.*, 1998). While most of the animals having uterine polyp are usually

asymptomatic, some animals may show mucopurulent to bloody vaginal discharge (Chambers *et al.*, 2011).

This case report details the successful surgical management of utero-vaginal leiomyoma and endometrial cystic polyp in a Labrador retriever dog.

Case history and Observations

A nulliparous intact female Labrador Retriever dog, aged 11 years, was presented to Veterinary Clinical Complex, Veterinary College, Mannuthy, Thrissur with a history of progressive enlargement of vulva, intermittent sanguineous vaginal discharge, difficulty in defaecation and urination, inappetence and reduced water intake since a month. As per the history narrated by the owner, the animal had a normal oestrous cycle with the last proestral bleeding observed three months before the day of presentation. The bitch had no history of any previous reproductive ailments. On detailed clinical examination, the animal was lethargic, panting with an elevated body temperature of 104.4°F. Conjunctival mucous membrane appeared congested and popliteal lymph nodes were swollen on palpation. Abdominal palpation revealed the presence of a hard mass in mid caudal abdomen. Per

vaginal examination revealed multiple palpable masses of firm consistency, obstructing the vaginal passage. Exfoliative vaginal cytology showed more than 80 per cent cornified cells, depicting oestrus phase of the cycle. Haemato-biochemical evaluation revealed leucocytosis, lymphocytosis and anaemia. Serum progesterone concentration was estimated to be 5 ng/mL. Radiographic examination of right lateral abdomen showed uterine enlargement. Trans-abdominal B-mode ultrasound examination revealed the presence of a multiloculated mass with variably sized cystic cavities and another capsulated mass inside the uterus.

Treatment and Discussion

Medical treatment was initiated with mifepristone (3.5mg/kg b.wt) orally along with supportive therapy using amoxicillin sulbactam (12.5 mg/kg b.wt) intravenously for 10 days. As the animal was not responding favourably and reduction in the mass could not be achieved, surgical management was opted. Surgery was performed under general anaesthesia using glycopyrrolate (0.01mg/kg b.wt.) and butorphanol tartarate (0.2mg/kg b.wt.) as premedicants and propofol (4.5mg/kg b.wt.) and isoflurane as anaesthetics. For the removal of the vaginal masses, episiotomy was performed. Eighteen well delineated, capsulated masses with firm consistency and variable sizes were extracted from the vaginal cavity (Fig.1). Ovariohysterectomy was performed through caudal mid-ventral laparotomy approach. The surgical incision was closed as per standard procedure. Post-operative supportive care was provided and sutures were removed on 10th day and animal had an uneventful recovery.

Detailed inspection of the reproductive tract revealed a firm round mass that weighed 175 grams in the body of the uterus (Fig.1). The right uterine horn revealed pedunculated polyp like mass with visible cystic cavities (Fig.2). Systematic examination of the ovaries revealed follicles

of varying sizes and appearances (Fig.3). To assess the quality of oocytes, follicular aspiration from ovaries was carried out which yielded Grade 'C' oocytes (Fig.4). Progesterone concentration in the follicular fluid was assessed by chemiluminescent immunoassay which was recorded as 40ng/mL.

Histopathologic examination of both uterine and vaginal solid masses by the Pathology Department of the Veterinary College; showed haphazardly arranged muscle bundles with strands of fibrous tissue in between, which was suggestive of leiomyoma. Histopathologic examination of multiloculated uterine mass showed distended glands with proliferated glandular epithelium, which was suggestive of endometrial cystic polyp. Histopathologic examination of both ovaries revealed the presence of luteinized follicles.

Genital tract pathologies mainly result from an abnormal ovarian activity and steroid hormonal level. This abnormality may be an attribute of old age, breed and administration of certain drugs for the manipulation of canine oestrous cycle as also reported by Borges *et al.*, 2015. Leiomyomas and uterine polyplesions arise from such damages inflicted by an altered ovarian activity and ovarian cystic conditions. In the present case, age of the patient and persistence of anovulatory luteinized follicles might have contributed to the condition. Granulosa cells lining follicular cyst may be productive secreting oestrogen with eventually following action of progesterone as indicated by increased concentration in follicular fluid (40 ng/mL) might have caused cystic endometrial hyperplasia and endometrial cystic polyp. Due to the advanced age of the animal, medical therapy with progesterone receptor antagonist, mifepristone @ 3.5 mg/ kg b.wt. for ten days was provided, but to fail. Further, surgical management with episiotomy and mid ventral laparotomy was rewarding.

Conclusions

Proliferative changes in uterus and ovaries could be a consequence of continuing exposure to steroid hormones, as was observed in the present study. As a relationship exists between cyst incidence,

bitch age and risk of reproductive tract pathologies, ovariectomy at an early age could be suggested if the dog is not considered for breeding purposes.



Fig.1. Uterine leiomyoma mass and multiple vaginal leiomyoma masses



Fig.2 Uterine endometrial cystic polyp Fig.3. Ovary containing luteinized follicles of varying sizes



Fig.4. Grade- C oocyte recovered from follicles

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