The Haryana Veterinarian (June, 2025) **64(1),** 137-139 ISSN 0033-4359 (P)

Clinical Article

A RARE CASE OF UTERINE MYXOID LEIOMYOMA ACCOMPANIED WITH PYOMETRA IN A QUEEN-CASE REPORT

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Received: 21.09.24; Accepted: 21.01.25

SUMMARY

A 10-year-old intact queen was presented to the Clinics of Department of Veterinary Gynaecology and Obstetrics with a complaint of distended abdomen, hemorrhagic vaginal discharge and anorexia for the past 4 days. Abdominal palpation revealed hard mass and enlarged uterus. On trans-abdominal ultrasonography, anechoic pockets and a hypoechoic mass in the left uterine horn anterior to the urinary bladder were evident. Ultrasonography and blood tests were suggested the pyometra. Histopathology of the uterus and the tumorous mass subsequent to ovariohysterectomy confirmed the presence of uterine myxoid leiomyoma with pyometra.

Keywords: Pyometra, Queen, Ultrasonography, Uterine myxoid leiomyoma

How to cite: Vishakha, D., Renukaradhya, G.J., Sahadev, A., Murthy, N., Summayya, S.R., Jayachandra, K., Rashmi, S. and Girish, M.H. (2025). A rare case of uterine myxoid leiomyoma accompanied with pyometra in a queen-case report. *The Haryana Veterinarian* **64(1)**: 137-139.

Uterine tumors are rare in cats and constitute about 0.29% of all feline tumors, whereas adenocarcinoma and leiomyoma are most commonly reported uterine neoplasms (Miller *et al.*, 2003) and myxoid leiomyoma are rare (Cooper *et al.*, 2006). It usually occurs in queen older than 9 years of age with clinical signs such as abdominal distension, weight loss, anorexia, pain, and vaginal bleeding in few cases (Miller *et al.*, 2003; Klien, 2007). Reproductive disorders may coexist with uterine neoplasms and uterine leiomyosarcoma along with pyometra was reported in cat (Tsioli *et al.*, 2011) and the present report could be one among the few reports available on myxoid leiomyoma with pyometra in cats.

An intact queen aged 10 years weighing 3.6 kg was presented to the Clinics of Department of Veterinary Gynaecology and Obstetrics with a complaint of hemorrhagic discharge, distended abdomen and anorexia for the past 4 days. Vital parameters were within the normal range. On abdominal palpation, a hard mass was palpable within thedistended uterine horns. A complete blood count revealed an increase in the leucocyte counts ($43.80\times10^3/\mu L$), decreased erythrocyte count ($2.93\times10^3/\mu L$), haemoglobin (5.4 gm/dl) and platelet count ($124\times10^3/\mu L$) which indicated anaemia and no alterations in serum biochemistry were recorded. On trans-abdominal ultrasonography, multiple anechoic pockets and hypoechoic mass within the uterine horn (Fig. 1) were visualized anterior to urinary bladder and the condition was diagnosed as uterine tumor within the fluid filled uterus.

Ovario-hysterectomy was performed under xylazine (1.2 mg/kg) and ketamine (11 mg/kg) anesthesia adopting routine standard procedure. Upon examination, both the uterine horns were distended with thick yellowish pus and soft tissue mass was evident within the lumen of left uterine horn. The soft mass was subjected to histopathology and revealed presence of smooth muscle cell proliferation elongated nuclei with eosinophilic cytoplasm surrounded by a myxoid matrix (Fig. 3) which confirmed the presence of feline uterine myxoid leiomyoma accompanied with pyometra. Post operatively intravenous fluids for 3 days, oral syrup of Sporidex along with Proviboost and ARBc for 7 days were administered. The queen recovered uneventfully and skin sutures were removed on 10th day post-surgery.

Uterine tumors are commonly found in intact queens mostly in older queens over 9 years of age. Chronic inflammation associated with pyometra has a tumorigenic effect, and such inflammatory process and inadequate pathological examination might result in failure to diagnosethe underlying neoplasm (dos Anjos Pires *et al.*, 2016). Numerous studies have suggested that uterine muscle tumors, such as leiomyosarcoma and leiomyoma might be involved in the development of pyometra. Immunosuppression and the loss of local defense mechanisms by the malignant mass were the potential causes of infection and further uterine leiomyoma might have blocked the cervix from normal drainage leading to pyometra (Na *et al.*, 2020). Abnormal estrous cycles and vaginal discharge are the clinical indicators of feline uterine tumors. However, weight loss, stranguria, constipation, abdominal distension and vomiting might be present (Cooper *et al.*, 2006). In the present case hemorrhagic vaginal discharge, anorexia, distended

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Fig. 1. Sonographic image showing echogenic tumorous mass within the fluid filled uterine horn

Fig. 2. Pyometric uterus with leiomyoma in a queen **(a)** Right uterine horn filled with pus **(b)** Left uterine horn containing pus with tumor mass

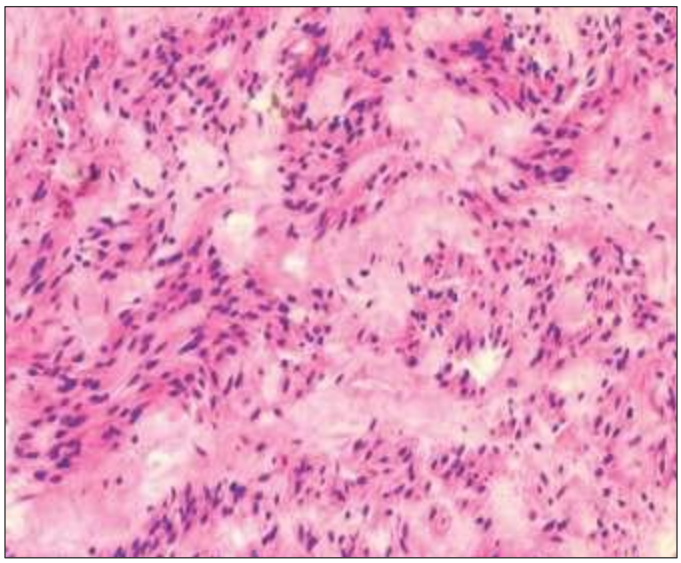

Fig. 3. Severe smooth muscle cell proliferation with moderate anisokaryocytosis (20X)

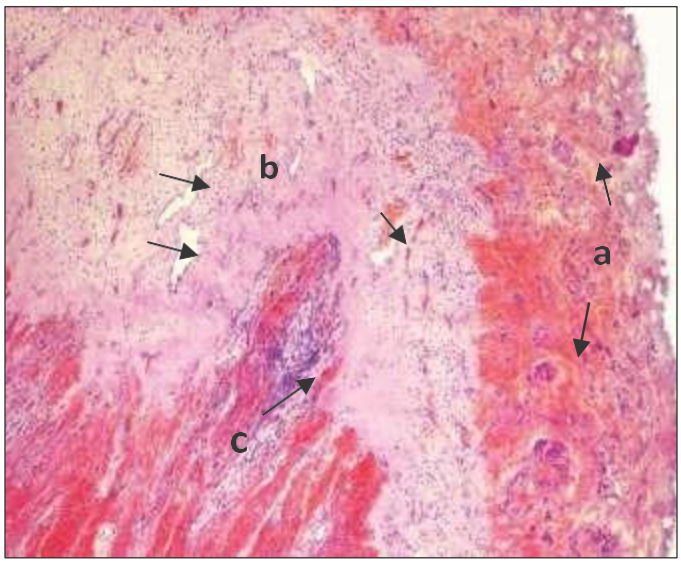

Fig. 4. (a) Endometrium with haemorrhages (red) and atrophied endometrial glands (arrows) (4X); (b) Myxoid connective tissue between endometrium and myometrium with venules (arrows); (c) Myometrium with haemorrhages (red) and smooth muscle cell proliferation (arrows)

Microscopic features of histological section of uterine mass

abdomen, anaemia and dehydration were observed. Regenerative anaemia and neutrophilia were the most common findings with normal biochemical parameters in uterine tumors (Sontas *et al.*, 2012). The decreased hemoglobin level was indicative of anemia which might be due to reduced food intake and impaired erythropoiesis under toxemic conditions in severely affected cases (Hasan *et al.*, 2021).

Ultrasonography (USG) might be useful to define the origin of the mass but confirmatory diagnosis was only through histopathological examination. In the present case trans-abdominal USG revealed the prersence of hypoehoic mass in left uterine horn with fluid that was indicative of uterine tumor with pyometra. Histopathology revealed the presence of severe smooth muscle cell proliferation with spindle cells and elongated nuclei surrounded by myxoid tissue which confirmed the presence of myxoid leiomyoma (Klein, 2007). The recommended treatment for pyometra in queens and further ocurrence of uterine neoplasia was ovariohysterectomy (Miller *et al.*, 2003). In thepresent case, ovariohysterectomy was performed under general anesthesia using xylazine and ketamine similar to the

procedure described by Nak *et al.* (2005).

CONCLUSION

Feline uterine myxoid leiomyoma associated with pyometra in cats is rare and can be diagnosed using ultrasonography and histopathology. Surgical management by ovariohysterectomy was considered as the best choice of treatment.

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