

## BILATERAL OVARIAN PAPILLARY CYSTADENOCARCINOMA CONCURRENT WITH CYSTIC ENDOMETRIAL HYPERPLASIA IN A LABRADOR BITCH – A CASE REPORT

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Received: 09.11.2022; Accepted: 30.12.2022

### SUMMARY

A 7-year-old Labrador Retriever bitch was presented with the history of recurrent cervico-vaginal prolapse since two months. The animal had normal temperature, heart rate and respiratory rate. Ultrasonography of uterus revealed cystic endometrial hyperplasia and with the consent of the owner, ovariohysterectomy was performed by standard protocol. Ovarian changes were evinced from the resected mass hence; the tissue samples of ovary and uterus were sent for histopathological examination and confirmed as bilateral papillary cystadenocarcinoma concurrent with cystic endometrial hyperplasia. The animal recovered uneventfully post-surgery.

**Keywords:** Bitch, Cystic endometrial hyperplasia, Papillary cystadenocarcinoma, Ovariohysterectomy

**How to cite:** Monica, G., Vigneshwaran, S., Inbaraj, C., Thangapandian, M., Pazhanivel, N., Rama, T., Chandrasekaran, D. and Vijayarajan, A. (2023). Bilateral ovarian papillary cystadenocarcinoma concurrent with cystic endometrial hyperplasia in a labrador bitch – A case report. *Haryana Vet.* 62(SI-2): 147-148.

Ovarian tumours are common neoplasms of dogs that cause various disorders viz. anoestrus, nymphomania, masculinisation, hyperadrenocorticism and alopecia (Lakhani *et al.*, 2004). Canine ovarian tumours are divided into three groups depending on their cell of origin; germcell tumours, sex-cord stromal tumours and epithelial cell tumours (Hofle *et al.*, 2004). In dogs, the reported incidence of epithelial neoplasms ranges from 40% to 50% and papillary adenocarcinomas or cystic adenocarcinomas represent nearly 64% of them (Sforna *et al.*, 2003). The present report records a unique case of bilateral ovarian tumour in a bitch.

A 7-year-old Labrador Retriever bitch was presented to the Veterinary Clinical Complex, Veterinary College and Research Institute, Udumalpet with the history of recurrent cervico-vaginal prolapse. On clinical examination, the animal had normal temperature, heart rate and respiratory rate. Cervico-vaginal prolapse was evident with necrosed tissue (Fig. 1) and the ultrasonography of uterus revealed cystic endometrial hyperplasia. Hence, with the consent of the animal owner, ovariohysterectomy was performed.

The animal was administered with preanesthetic medication using Inj. Atropine @ 0.04 mg/Kg BW SC, Inj. Xylazine @ 1 mg/Kg BW IM. The animal was surgically prepared for ovariohysterectomy aseptically. Induction and maintenance anesthesia was achieved using Inj. Ketamine @ 5 mg/Kg BW IV and Inj. Diazepam @ 0.5

mg/Kg BW IV. Ovariohysterectomy was performed by mid-ventral laparotomy using standard protocol along with cervicopexy. The animal was administered with Inj. Amoxicillin @ 20 mg/Kg BW IV and Inj. Prednisolone @ 0.5 mg/Kg BW for three days. Gross ovarian changes were evinced from the resected mass (Figs. 2 and 3) and also cystic endometrial hyperplasia clearly evident in the endometrium (Fig. 4). Hence, the tissue samples of uterus and ovary were sent for histopathological examination. The animal recovered uneventfully post-surgery.

Grossly the left ovary appeared enlarged, multinodular and contained multiple cysts. The cysts contained clear straw yellow coloured serous fluid. Representative tissue sample from the excised mass was fixed in 10% neutral buffered formalin and the sectioned slide was stained with Hematoxylin and Eosin for histopathological analysis. Histopathology of the ovary revealed the presence of multiple cysts and arboriform patterned papillae which projected into the cystic lumen. They were lined by single to multiple layers of cuboidal to columnar epithelial cells. The tumour cells revealed pale eosinophilic cytoplasm with round to ovoid nuclei. Anisocytosis, nuclear atypia and nuclear pleomorphism were also observed. Mitosis was minimal. The papillae were supported by fibrovascular stroma. Endometrial tissue revealed moderate cystic endometrial glandular hyperplasia and histo-pathology confirmed the condition as bilateral papillary cystadenocarcinoma concurrent with cystic endometrial hyperplasia.

The increased hormonal influence due to cystic

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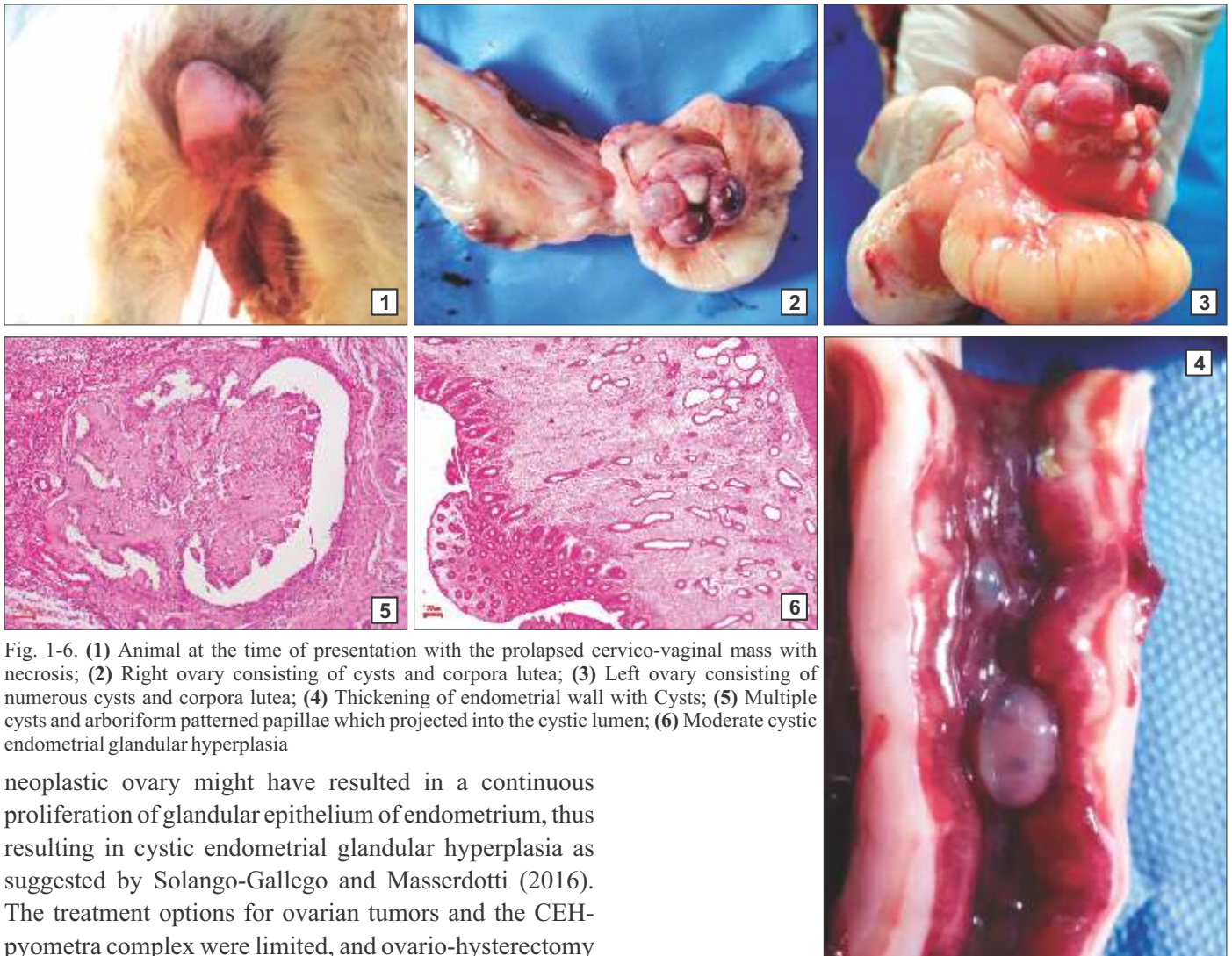


Fig. 1-6. (1) Animal at the time of presentation with the prolapsed cervico-vaginal mass with necrosis; (2) Right ovary consisting of cysts and corpora lutea; (3) Left ovary consisting of numerous cysts and corpora lutea; (4) Thickening of endometrial wall with Cysts; (5) Multiple cysts and arboriform patterned papillae which projected into the cystic lumen; (6) Moderate cystic endometrial glandular hyperplasia

neoplastic ovary might have resulted in a continuous proliferation of glandular epithelium of endometrium, thus resulting in cystic endometrial glandular hyperplasia as suggested by Solango-Gallego and Masserdotti (2016). The treatment options for ovarian tumors and the CEH-pyometra complex were limited, and ovario-hysterectomy was the only option in the present case (Gopikrishnan *et al.*, 2021). The ovarian tumor was identified only during the surgical procedure. Hagman (2012) suggested ovario-hysterectomy as a rapid therapeutic intervention after the diagnosis of CEH to prevent a fatal outcome. Further, canine papillary adenocarcinomas produce both oestrogen and progesterone which play a role in the development of cystic endometrial hyperplasia and subsequent pyometra and are capable of stimulating endometrial and myometrial proliferative changes (Niskanen and Thrusfeld, 1998). Hence, Ovariohysterectomy could be the treatment of choice in case of recurrent cervico-vaginal prolapse which are caused by ovarian tumors.

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