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Short Communication

GRANULOSA CELL TUMOUR, ITS DIAGNOSIS AND SUCCESSFUL MANAGEMENT IN A BITCH

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SUMMARY

An old female dog with the history of anorexia, irregular estrus, weight loss and abdominal pain was examined by ultrasound and X-Ray and, diagnosed tumours on ovaries. The animal was diagnosed as suffering from ovarian tumour on the basis of X-ray and ultrasound examination which later on was confirmed as granulosa cell tumour on the basis of histopathology.

Key words : Bitch, granulosa cell tumour, ovarian tumour

Canine ovarian tumours depending on their origin can be classified into three groups namely: Germ cord cell tumours, sex cord stromal cell tumours and epithelial cell tumours (Kennedy *et al.*, 1998). Incidence of ovarian tumours in dogs ranges between 0.5 to 6% (Madewell and Theilen, 1987). Sex cord stromal tumours, well known for ovarian malignancy in domestic animals, originate from the specialized stroma of the ovary and occur mostly unilateral (Foster, 2006). Granulosa cell tumours may produce and increase secretion of hormones such as estradiol, progesterone and inhibin (Pluhar *et al.*, 1995) which result in disturbed estrous cycle. In the present study, a rare case of granulosa cell tumour in a Mongrel bitch and its diagnosis through ultrasonography and histopathology is placed on record.

A 10 years old Mongrel female dog was presented to Krishna Ashram NGO, New Delhi with a history of anorexia, weight loss, abdominal distension, abdominal pain and abnormal estrus behavior. The X-ray examination of the abdominal region revealed the presence of intra-abdominal mass caudally to the kidneys. Abdominal ultrasonography showed a large homogenous and mixed echogenic mass associated with the ovary just near the kidneys (Fig. 1). Based on these findings, the case was diagnosed as ovarian tumour.

Ovariohysterectomy was performed under general anaesthesia by standard procedure. Following ovariohysterectomy, the bitch was treated with antibiotics (ceftriaxone 500 mg, I/V, bid, for 5 days), dextrose saline (5%, 200 ml, I/V, for 3 days) and daily antiseptic dressing of the wound for 10 days. The bitch recovered uneventfully.

After the ovariohysterectomy, grossly the ovaries were very large with smooth surface and soft consistency (Fig. 2). Histopathological examination of the affected ovary revealed tumour cells arranged in sheet with mild to scanty cytoplasm, round

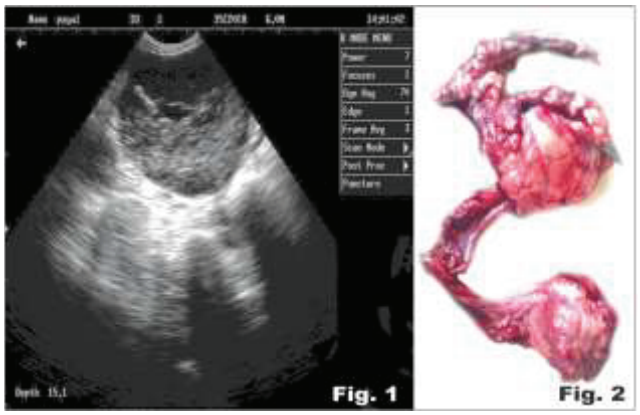

Fig 1. Ultrasonographic image showing homogenous and mixed echogenic mass of ovary.
Fig 2. Bilateral ovarian tumour of ovaries.

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hyperchromatic nucleus and call-exner bodies (Rosettes of granulosa cell) which are characteristics of granulosa cell tumours (Maclachlan and Kennedy, 2002; Foster, 2006). A mild mitotic activity was also seen at the periphery of the cells. Ovarian cystadenoma have been reported in bitch (Singh *et al.*, 2003) however, granulosa cell tumours have been reported in mare (Luthra *et al.*, 1996). Moreover, granulosa cell tumour have also been reported as a cause of vaginal prolapse in bitches (Nak *et al.*, 2012). Sex cord stromal tumours are usually benign in mare and cow but granulosa cell tumours are some times malignant in bitch (Zanghi *et al.*, 2007; Tavasoli and Solati, 2011).

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