FOLLICULAR CYSTIC OVARIIES AND CEH-PYOMETRA IN A DOG

C. Jayakumar, Abhignya Krishna, K.S. Shwetha and G. Sudha
Department of Veterinary Gynaecology and Obstetrics, Veterinary College, Bangalore
[Received: 31.1.2014; Accepted: 01.6.2014]

Introduction

Ovarian follicular cysts are fluid filled structures in the ovary with a distinct wall that may be secreting estrogen with subsequent estrogen mediated effects on the female reproductive tract and extra reproductive system (Post et al., 1991). Ovarian follicular structures greater than 8mm in diameter present during proestrus or estrus prior to ovulation, or follicles of any size present during late estrus (post ovulation), diestrus or anestrus are defined as follicular cysts (Johnston et al., 2001). Ultrasonographically, follicular cysts appear as focal hypoechoic and anechoic structures that may show far enhancement. Follicular cysts may be single or multiple; if multiple cysts are present in one ovary, the cysts do not communicate. Pathogenesis of follicular cystic disease in the dog ovary is unknown. Clinical signs of cystic ovarian follicular disease are referable to increased serum estrogen concentration. The most common presenting complaint is estrous cycle irregularity exhibited as irregular interestrus intervals and prolonged proestrus or estrus. Concurrent diseases reported in dogs with follicular cyst include CEH-pyometra complex, mammary, ovarian and uterine neoplasia and skin changes (Johnston et al., 2001).

The present paper places on record Cystic Endometrial Hyperplasia–Pyometra complex associated with follicular cyst in a dog.

Case History and Observations

A nine year old, nulliparous, Lhasa apso dog presented to the Department of Veterinary Gynaecology & Obstetrics, Veterinary College, Bangalore was evaluated for prolonged serosanguinous vaginal discharge since more than two weeks. Vaginal cytological examination revealed predominance of cornified vaginal epithelial cells (>80%). Vaginoscopy exposed presence of edematous billows of vaginal mucosa. Abdominal ultrasonography with a 5 MHz transducer revealed enlarged uterus with varying sized hypoechoic areas and focal anechoic areas caudal to both kidneys. Laboratory findings indicated peripheral leukocytosis and moderately elevated BUN and creatinine levels. Based on the clinical, ultrasonographic, vaginoscopic and laboratory findings, the condition was presumptively diagnosed as open cervix pyometra associated with follicular cyst. As the dog has passed its fertile age and not intended for breeding, ovariohysterectomy was performed.

Under intravenous anaesthetic protocol with Ketamine and Propofol, ovario-hysterectomy was performed through a mid ventral laparotomy incision. The right ovary exposed a large follicular cyst measuring 4.1 x 3.7 cm in diameter and containing 10 ml of clear cystic fluid. The left ovary also exposed multiple cysts and the biggest one had a diameter of 2.2 x 1.6 cm (Fig.1). Though both uterine horns were enlarged, the left horn enlargement was prominent than right. The horns expressed serosanguinous discharge and the endometrium was moderately thickened by multiple fluid filled cavities significantly cystic endometrial hyperplasia. The laparotomy wound was approximated as per standard procedures and post operative antibiotic and supportive treatments instituted. Skin sutures were removed on
tenth day and the animal had an uneventful recovery.

Histologically, the cyst lined by cuboidal to columnar cells and that contained no ovum was identified as follicular type. Cystic endometrial hyperplasia and endometritis was confirmed on histopathological examination of the thickened area of the uterine wall.

Discussion
Ovarian follicular cysts, usually a condition of the older bitch, are thin walled structures containing clear, serous fluid and may be single or multiple and unilateral or bilateral (Roberts, 1982). Granulosa cells lining follicular cysts may be productive, secreting estrogen with subsequent estrogen mediated effects on the dog’s reproductive tract and extra reproductive systems (Johnston et al., 2001). Prolonged periods of secretion of estrogen from follicular cyst predispose to cystic endometrial hyperplasia (Harvey, 1998). Limited success has been reported with hormonal therapy for ovarian follicular cysts and ovariectomy or ovario-hysterectomy is the treatment of choice (Johnston et al., 2001). Follicular cysts complicate cystic endometrial hyperplasia – pyometra (Bang Sil Kim et al., 2008). The presence of follicular cysts in both ovaries of the reported dog and the prolonged exposure to estrogen from follicular cyst might have predisposed to Cystic endometrial hyperplasia – pyometra complex correlative to the findings of Harvey (1998) and Johnston et al., (2001) who reported a close relationship between ovarian follicular cysts; ovarian, mammary, uterine neoplasia and co- existence of Cystic endometrial hyperplasia- pyometra complex.

References