

## UTERINE SEROSAL INCLUSION CYSTS COUPLED WITH DYSTOCIA DUE TO PRIMARY UTERINE INERTIA IN A GERMAN SHEPHERD SHE DOG

AVANEESH KUMAR SINGH\*, JITENDRA AGRAWAL, VIKAS SACHAN, ANUJ KUMAR and ATUL SAXENA  
Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry,  
U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan,  
Mathura-281001, India

Received: 20.06.2020; Accepted: 15.07.2020

### SUMMARY

The present communication documents a rare case of uterine serosal inclusion cysts in a seven year old German Shepherd she dog which was presented in the clinic with history of complete gestation period with little progression of parturition by showing greenish blackish discharge. Ultrasonographic examination revealed the presence of fetuses and its associated structures in uterus. Two dead fetuses were expelled by C-section and further, uterine serosal inclusion cysts were observed throughout in the uterine horn while performing ovario-hysterectomy. She dog recovered uneventfully after seven days of post-operative treatment.

**Keywords:** Dystocia, Ovariohysterectomy, Pregnant, Serosal inclusion cysts, She dog

Serosal inclusion cysts are thin walled fluid filled cysts located on the serosal surface of the uterus. Serosal inclusion cysts of the uterus develop during post partum uterine involution. Due to the rapid contraction of the myometrium, portions of the mesothelium are infolded and finally develop into serosal inclusion cysts (McEntee, 1990). These cysts vary in size from a few millimetres to a few centimetres and are localised on the anti-mesometrial side of the uterus. Serosal inclusion cysts are found predominantly in aged pleuriparous she dogs and are usually focal rather than disseminated (Kennedy and Miller, 1993). These cysts do not have any effect on fertility but sometimes it may be associated with hormonal dysfunction (Schlafer and Miller, 2007). The present communication reports the presence of multiple serosal inclusion cysts on the surface of whole uterus and these findings were observed in a pregnant she dog after laparotomy.

A seven year old German Shepherd full term she dog was presented to Veterinary Clinical Complex with the history of straining for the past 24 hours. According to the owner, straining ceased since morning with oozing of small amount of greenish-black discharge from the vulva. Clinical examination revealed the presence of vaginal discharge but fetuses were not palpable per-vaginally. The she dog was dull and depressed. Ultrasonographic examination confirmed the presence of fetuses inside the uterus without any signs of viability. Based on history and gynaeco-clinical examination, case was diagnosed as dystocia due to primary uterine inertia. Further it was decided to go for the treatment for uterine inertia.

The she dog was treated with intravenously administration of Inj. Oxytocin 10 units, Dextrose (25%)

100 ml and Inj. Calcium gluconate (10%) 7 ml as a slow intravenous infusion, but the animal failed to respond to the therapy as there was no progress in parturition. Due to failure of therapy, caesarean section was opted to save the life of the she dog. The operation was performed as per standard protocol by giving mid-ventral line incision under xylazine and ketamine anesthetic combination. When the gravid uterus was exposed, it was observed that cysts were distributed throughout the uterine horns and body which almost surrounded the ovary (Fig. 1). Two completely developed dead fetuses were delivered through the uterine incision. Based on the lesions present and request of the owner, ovariohysterectomy was performed to avoid untoward future complications. Post operatively, the she dog was treated with Inj. 5% Dextrose normal saline (250 ml), Inj. Ringer lactate (250 ml) and Inj. Multivitamin @ 2 ml I/V, Inj. Ceftriaxone @ 25 mg/kg body wt. I/M, Inj. Meloxicam @ 0.2 mg/kg body wt. I/M, Inj. Pheniramine maleate @ 2 ml I/M and dressing with Povidone iodine for the next 5 days. She dog was recovered within 7 days and skin sutures were removed after complete healing by 12 days.

In the present case, the German Shepherd she dog could not deliver the pups because of primary uterine inertia. The most common cause of dystocia in she dog is primary uterine inertia seen in 75% of the cases (Gray, 1996). In the present case, caesarean section was carried out as the medical management failed. Caesarean section was performed most frequently in cases of primary uterine inertia that failed to respond to feathering or vaginal stimulation of uterine contractions, or to the injections of pituitrin or pitocin (Roberts, 1971). Further in the present case, multiple uterine serosal cysts were found on the surface of whole uterus upon gross examination of the

\*Corresponding email: singh.avaneesh2005@gmail.com



Fig. 1. Gravid uterus covered with uterine serosal cyst

uterus subsequent to ovariohysterectomy. These serosal inclusion cysts are either solitary or multifocal and incidentally found during ovariohysterectomy in dogs (Vural *et al.*, 2004; Schlafer and Gifford, 2008) and cats (Godfrey and Silkstone, 1998). Ortega-Pacheco *et al.*, (2007) studied reproductive pathologies of stray she dogs and reported that 5% of them had serosal inclusion cysts with unknown clinical significance. Serosal inclusion cysts are thought to be clinically benign and physiologically inactive without interfering with the reproductive function (Godfrey and Silkstone, 1998). Kaiser (1978) also reported

a similar case wherein the whole uterus was distributed with serosal cysts.

It was concluded that uterine inclusion cysts doesn't interfere the reproductive functions and may be observed incidentally during operative procedures.

#### REFERENCES

- Godfrey, D.R. and Silkstone, M.A. (1998). Uterine serosal inclusion cysts in a cat. *Vet. Rec.* **142(24)**: 673.
- Gray, E. (1996). Disorders of parturition in Bitch. *Vet. Nurs. J.* **11(3)**: 77-84.
- Kaiser, S. (1978). Uterine serosal inclusion cysts in a bitch. *Kleintier Praxis.* **23**: 397.
- Kennedy, P.C. and Miller, R.B. (1993). The female genital system. In: Pathology of domestic animals. Jubb, K.V.F., Kennedy, P.C. and Palmer, A.C. (Edts.). Academic Press, London. pp. 349-470.
- McEntee, K. (1990). The uterus: degenerative and inflammatory lesions. In: Reproductive Pathology of Domestic Animals. McEntee K. (Edt.). Academic Press, San Diego. pp. 158-159.
- Ortega-Pacheco, A., Segura-Correa, J.C., Jimenez-Coello, M. and Linde, F.C. (2007). Reproductive patterns and reproductive pathologies of stray bitches in the tropics. *Theriogenology.* **67(2)**: 382-390.
- Roberts, S.J. (1971). Veterinary Obstetrics and Genital Diseases. (2<sup>nd</sup> Edn.), CBS Publishers and Distributors, New Delhi, India. p. 269.
- Schlafer, D.H. and Gifford, A.T. (2008). Cystic endometrial hyperplasia, pseudo-placentational endometrial hyperplasia, and other cystic conditions of the canine and feline uterus. *Theriogenology.* **70(3)**: 349-358.
- Schlafer, D.H. and Miller, R.B. (2007). Female genital system. In: Jubb, Kennedy, and Palmer's pathology of domestic animals. Maxie, M.G. (Edt.). Elsevier Limited, China, pp. 429-564.
- Vural, S.A., Haligur, M. and Ozenc, E. (2004). Uterine serosal inclusion cysts in dogs: Pathomorphological and immune histochemical findings (in German). *Kleintier Praxis.* **49**: 375-377.