

## A RARE CASE OF FOETAL MUMMIFICATION IN A POMERANIAN BITCH

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## SUMMARY

A 7-year-old female dog with a history of dystocia and delivery of three live foetuses one month ago was brought to VCC of the LUVAS with the complaint of purulent foul-smelling, yellow-colored vaginal discharge for the last 6-7 days. Radiographic examination of the lower abdomen confirmed bony parts in the uterus. The owner requested for the removal of the uterus as he did not want the dog to conceive again, so an elective ovariohysterectomy was performed and four mummified foetuses were removed. The female dog recovered uneventfully.

**Keywords:** Bitch, Foetal mummification, Ovariohysterectomy

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Foetal mummification refers to foetal death after bone formation, followed by absorption of foetal fluid and contraction of uterus around the conceptus (Roberts, 2004; Singh *et al.*, 2019). Therefore, the foetus remain in uterus for prolonged period of time. The exact etiology and incidence is not reported in bitches; however *Canine herpes virus* is the most common cause of foetal mummification. Various accompanying risk factors include chromosomal aberrations in developing conceptus, infectious agents, toxic drugs, high ambient temperature, disturbances of endocrine origin in the dam, dietary deficiencies, trauma, uterine inertia, dystocia (Johnston and Somsak Raksil, 1987). This report puts on record a case of foetal mummification in a Pomeranian bitch and its management through surgical intervention.

A 7-year-old Pomeranian female dog was brought to Veterinary Clinical Complex, LUVAS, Hisar, Haryana with a history of purulent, foul-smelling, yellow-coloured vaginal discharge for the last 6-7 days. The animal was apparently healthy and having normal feed and water intake. Detailed anamnesis revealed that animal had suffered with dystocia and three live foetuses were delivered with medical aid one month ago. The dog had no problem for one month and had normal way of life. General examination revealed rectal temperature of 101.2 degrees Fahrenheit. The routine haematological parameters were assessed (Table 1).

Radiographic examination of lower abdomen was carried out and it confirmed evidence of bony parts in utero (Fig. 1).

The owner requested for removal of the uterus as he

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Table 1. Haematological findings of the bitch

Parameter	Values	Normal Range
Hb (g%)	8.9	12 -18
PCV (%)	31	37-55
TLC (per cumm)	5.8	5.7-14.2
Neutrophils (%)	89	43-80
Lymphocytes (%)	8	14-45
Monocytes (%)	3	2-9
Platelets per cumm	217	200-500

did not want the dog to conceive again, so we decided to perform an elective ovariohysterectomy (OH). OH was aseptically performed according to a standard procedure. Premedication was administered in the form of intramuscular atropine sulfate (0.04 mg/kg S/C) and diazepam (0.5 mg/kg, I/V). Induction and maintenance involved a diazepam and ketamine hydrochloride combination (@0.5 and 5 mg/kg I/V, respectively). Skin incision was given at mid ventral line site i.e., linea alba. After opening the peritoneum, uterus was exteriorized. The ovaries, ligaments and blood vessels were precisely identified. The uterus, ovaries were surgically removed (Fig. 2) and abdominal muscles and skin were sutured in routine manner (Niwas *et al.*, 2023). During the entire operative procedure, normal saline was infused intravenously. Upon incising the uterus, four mummified foetuses were observed (Figs. 3 and 4).

Postoperatively, the dog was treated for seven days and the treatment included Inj. Chlorpheniramine maleate @ 0.5 mg/kg B.wt. I/M OD, Inj. Cefotaxime @ 25 mg/kg B.wt. I/M BD and Inj. Meloxicam 0.5 mg/kg B.wt. I/M BD. Inj. Metronidazole @ 20 mg/kg B.wt. I/V OD and Inj. Normal Saline Solution (NSS) @ 25 ml/kg/hour I/V



Fig. 1. Radiograph showing bony parts in utero



Fig. 3. Incising the uterus to observe the mummified foetuses

Fig. 4. Four mummified foetuses

were advised for 3 days. The regular antiseptic dressing of suture line with liquid betadine was recommended till removal of sutures on day 13. The animal recovered without any post-operative complication.

Ovariohysterectomy (OH) is also known as spaying which involves surgical removal of ovaries along with uterus. OH reduces chances of certain uterine tumours, unwanted pregnancy, and other reproductive issues. OH in foetal mummification cases reduces chances of foetal maceration or systemic illness. Infections during gestation period can cause foetal death in animals including dogs and often result in abortion, foetal mummification, maceration, premature birth, dystocia and/or birth of weak young ones (Baruti *et al.*, 2018). Papyraceous type of mummification is the most commonly seen in bitches which is characterized by resorption of foetal fluids, retention of the foetus along with foetal membranes with persistence of corpora lutea (Perumal and Srivatsava, 2011). If foetal mummification takes place, it does not impede the viability of other foetuses and mummified foetuses get delivered with the normal foetus at complete gestation (Arthur *et al.*, 2001).

It is accepted that foetuses fail to produce sufficient



Fig. 2. Surgically removed uterus and ovaries

amount of ACTH and cortisol hormone which signal the initiation of parturition process (Linde-Forsberg, 2010). But in the current case, parturition had initiated and the four foetuses were retained since last one month which could be due to uterine atonicity (Romagnoly *et al.*, 2004) due to calcium deficiency or hormonal aberrations. The owner of the dog believed that all the pups have been delivered as there was absence of vaginal discharge after delivery of three live pups for one month. The occurrence of such cases is rare. Therefore, radiographic/ultrasonographic examination is recommended to assure the delivery of all the foetuses and completion of the whelping process.

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