

## **FETAL MUMMIFICATION IN GERMAN SPITZ BITCH: CASE REPORT**

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**Abstract:** Fetal mummification is characterized by resorption of fetal fluids and dehydration of fetal tissue leading to wrapping of uterus around fetus along with persistence luteal tissue. It usually occurs in late gestation after ossification of the bones. Present case discussed the whelping of mummified fetus along with normal live fetuses at the time of parturition.

**Keywords:** Mummification, resorption, persistence luteal tissue.

### **Introduction**

Fetal mummification is characterized by the death of fetus followed by resorption of fetal fluids and dehydration of fetal tissue along with persistence functional luteal tissue and retention of fetuses within the uterus (Noakes, 1986). It commonly occurs in polytocous animals and rare in monotocous (Perumal and Srivatsava, 2011). Early pregnancy infection is revealed as a case of infertility due to fetus resorption. Mid- to late-pregnancy infection can result in either the abortion of fetuses with varied degrees of mummification, dead fetuses, stillborn fetuses, or weak newborn puppies, all with no clinical signs in the bitch. In the case of abortion with or without mummified fetuses, a diagnosis may be difficult, especially if the bitch consumes or hides the fetuses (Lefebvre, 2015). The uterus contracts on fetus, placental fluid get absorbed and fetal membrane get shriveled and dried (Roberts, 2004). These conditions may alter the environment of uterus and lead to fetal death and subsequent mummification (Planellas *et al.*, 2012). Fetal mummification usually occurs in last stage of gestation after ossification of the bones. As it is a sterile condition, future fertility of animal will not be affected (Vikram 2015). In canines, fetal mummification is a characteristic of canine herpes virus (CHV) infection (Arthur *et al.*, 1996).

### **Case history**

A five year old German Spitz bitch weighing 8 kg in its third parity was presented to Teaching Veterinary Clinical Complex, GADVASU, Ludhiana with history of mating 2

months back and showing labor signs with vaginal discharge. As per the owner, animal was showing restlessness with reduced appetite. Examination of animal showed signs of pregnancy with abdominal enlargement and engorged mammary glands. Per vaginal examination revealed complete dilation of birth canal with a palpable fetal head. Abdominal radiograph revealed presence four fetuses with bony structures and an abnormal fetal texture in the uterus (Fig 2). A tentative diagnosis made with a primary uterine inertia and dystocia associated with obstruction of dead fetal head in vaginal canal.

### **Treatment**

Treatment was initiated with 400 ml Dextrose saline solution, 20 mg Pantaprazole intravenous injection, 1 ml Oxytocin intravenously and 3 ml Oxytocin slow intravenous (at the rate of 5-7 drops per minute) diluted in dextrose and 10 ml Calcium Sandoz (5 ml intramuscularly + 5 ml sub-cutaneously) injection for induction of parturition. Bitch was also treated with 250 mg Ceftriaxone intravenously for guarding the bacterial infection and 1.5 ml Tribivet intravenously as a supportive therapy.

After ten minutes of induction dead fetus with large head resting on pelvic outlet was delivered by crushing the fetal head carefully by whelping forceps. The second fetus was delivered after fifteen minutes with mild traction by hand and interestingly it was found to be mummified fetus. The other fetuses are also delivered which were normal and live. It was observed that in condition like fetal mummification, there are chances of livable normal fetus in uterus.

### **Discussion**

A total of 5 fetuses were delivered from both the horns along with mummified fetus (Fig 2). Mummified fetuses were soft in consistency without any odor and with little placental fluids (Johnston *et al.*, 2001; Nascimento and Santos, 2003; Jackson, 2004; Grunert *et al.*, 2005; Kennedy and Miller, 2007; Vikram *et al.*, 2017). The report signifies the presence of one mummified fetus along with several normal live fetuses which is also observed occasionally in dogs (Roberts, 2004). Radiography revealed the mummified fetus as undefined bony structures in the uterus which can be interpreted as other fetuses are normal and intact in the film (Fig 1). The uterine inertia was the main cause for retention of mummified fetus as described by Wallet and Lindane (1994) and Romagnoly *et al.*, (2004). Mummified fetuses were at varying size indicating that the death occurred at different stage of gestation, which is in accordance with earlier reports (Jubb *et al.* 1985; Yugal Raj Bindari and Sulochana Shrestha, 2012). For kennels exhibiting this problem, an inactivated vaccine is licensed for

use in some European countries (Eurican Herpes 205; Merial, Lyon, France) for administration 10 days postcoitus and 6 weeks later in bitches. Mummified fetus along with normal live fetuses at the time of parturition has been reported in canines by Prabhakaret *al.* 1993 and Srivastava (2005) which was also observed in the present study.

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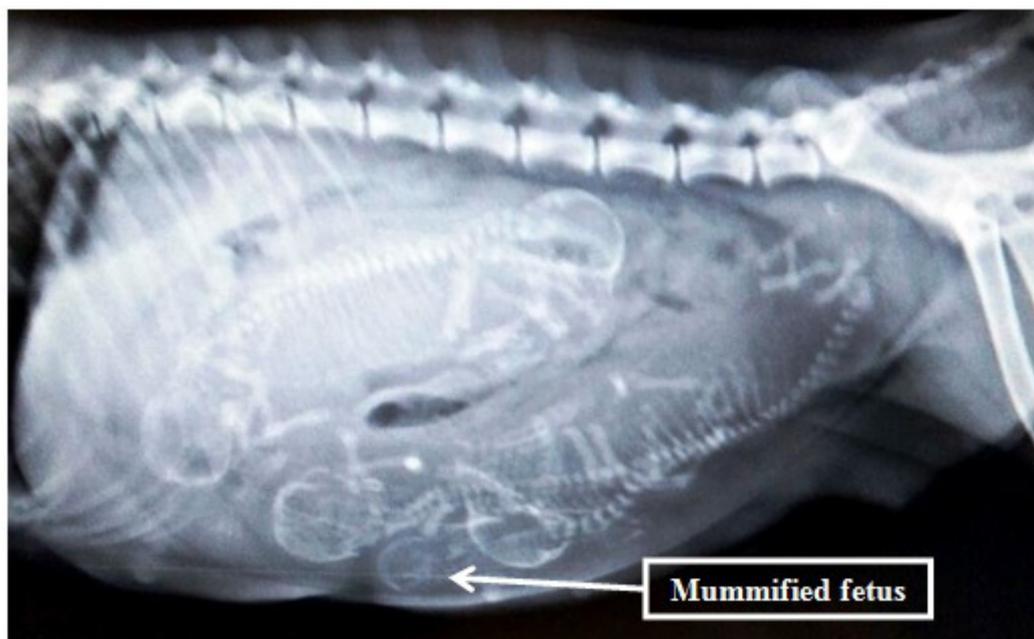
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**Fig 1** Radiograph showing comparison of normal and mummified fetus



**Fig 2** Mummified fetus