

Case Report

## Neonatal Puppy Death and Disease in Female Dogs in their Pregnancy Period

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Some puppies or kittens die soon after birth. These are termed as Fading Puppies or Fading Kittens. Fading Puppy Syndrome (FPS) is a disorder that can be fatal in the newborn canines. Although never studied, intestinal microbial changes may play a role in its pathogenesis [1].

In the field of veterinary medicine, the neonatal period is regarded as the period between fetal and adult life during which the structural and functional systems of the animals change. It is also the time when an animal's puppies leave the uterus, which is a physically, chemically, and microbiologically protected environment to adapt to a more challenging environment. Neonatal mortality in dogs results into heavy economic losses among dog breeders. There is always been a threat to young dog's survival, especially those of exotic breeds. Dog neonatal mortality has a variety of underlying reasons. Risk factors for fetal, maternal, environmental, and scoring development may be included in the list of potential risk factors [2].

Many of the antibiotics given during pregnancy are known to be safe. However, majority of antifungal medications are highly teratogenic. The health of female canines and puppies may be improved and additional environmental contamination may be avoided. The killed or recombinant vaccines can be given during pregnancy, but modified live vaccines

should only be given where there is a risk of infectious diseases [3].

It has been suggested that mismanagement is a cause of mortality of animal under study due to the inability to identify potentially relevant microbes. Also, it is likely that the unique physiological characteristics of neonatal puppies take them on risks of management errors [4].

Determining the cause of death in these circumstances can likewise be baffling and challenging for diagnostic pathologists. Infectious disease, sepsis, pneumonia, congenital anomalies, and trauma are typical conditions linked to canine prenatal losses. Another factor to take into account is FPS. Feline prenatal loss is not yet fully understood. In order to prevent prenatal losses, maternal health must be evaluated. Endometrial biopsy collection could be a crucial component of this assessment although additional research is required to link endometrial abnormalities to fertility [5].

In the presented case (figure 1), the unusual situation regarding a pregnant dog is reported during pregnancy period in the mid of November of 2021. There was a female dog that was pregnant and the sonography reports showed that it would deliver six pups that would be normal and healthy. The normal pregnancy period of dog is generally 9 weeks but the mother dog under study faced labor pain 2 weeks earlier. The dog got immense pain and started shivering in the morning

(date not available). Approximately, at 7:00 am, (date not available) the first puppy was born. Total five puppies delivered and unfortunately, all of them were found to be dead. On the next day, at 8:00 am, the same situation occurred and the sixth puppy that was delivered was also dead. During delivery process, there was a greenish black watery fluid coming from the vagina. There were sacs of dead puppies filled with that fluid.

When the dog was taken to the hospital, doctor (name of a doctor and his/her hospital not available) assumed that the greenish liquid might be a poison; the whole rare situation kept the doctor in the confusing phase.

### Conclusion:

The dog might have gone through FPS (very rare case) and this can be the result of some bacterial or microbial infections in the pregnant female dogs. The story was very rare and it is needed to be further studied by the researchers.

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**Competing interest:** Authors declare that no conflict of interest exists.

**Ethical Statement:** This work has been performed with official permission of the owners of the female dog under study.

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## Appendix

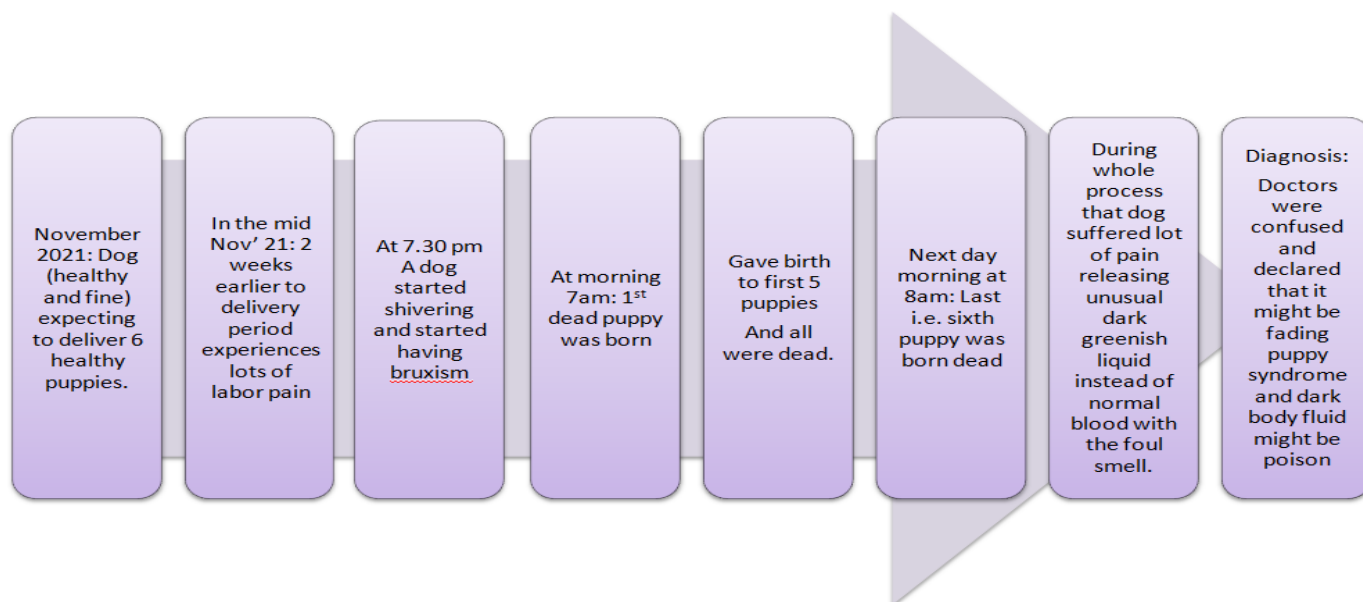


Figure 1: The events of delivery and suffering of a female dog.