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Popular Article

Misalliance or Termination of Pregnancy in Bitches: Incidence, Risk Factors, Diagnosis and Treatment

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Introduction

Mismating, sometimes known as termination of pregnancy, is an unintentional mating (misalliance) in which the health of the dam may be seriously jeopardized throughout pregnancy and parturition, or in which the animal's owners do not wish the pregnancy to proceed. Dogs go through an approximately nine-day oestrus, followed by a lengthy mating period that lasts for approximately one week, during which time conception can occur (Tsutsui T, 1989). As a result, there is a high chance of conception when misalliance happens.

Incidence

Longer oestrus periods combined with bitches' promiscuous behaviour greatly enhance the likelihood of mismating in dogs. Additionally, the predisposition of the oestrus bitch to accept a male partner and her roaming habit greatly enhance the likelihood of mismating.

Indications

Pet owners are generally very attentive and loving toward the upkeep and wellness of their animals. To achieve this, once mismating takes place, they choose treatments that will stop an undesired pregnancy from starting. There are many different reasons to choose to eliminate the

repercussions of mismating. Among them include the avoidance of unintentional mating at too young or elderly an age, reproductive management of valuable bitches, management of pet overpopulation, prevention of the delivery of ugly pups, and the owner's incapacity to pay for the costs associated with raising pups.

Risk Factors

Aplastic anemia (associated with bone marrow suppression), endometritis, pyometra, pseudopregnancy, and the development of ovarian follicular cysts are among the adverse consequences of oestradiol therapy (Bowen et al., 1985; Weiss and klausner, 1990).

Diagnosis

Whether the bitch was in estrus and mated needs to be determined. If the bitch is in estrus, it can be promptly ascertained with a vaginal cytology examination. The bitch is in estrus if the vaginal cytology slide is 90% to 100% cornified. In contrast, the bitch is not in estrus if the vaginal cytology slide is devoid of cornified cells.

Treatment

1. **Oestrogens**

By strategically using oestrogens during the first five days following mating, bitches can avoid becoming pregnant. They work by obstructing the zygotes passage from the uterine tube to the uterine horns, most likely by inducing endosalpinx oedema and a transient tubal occlusion. Oestradiol benzoate was administered as a single intramuscular or subcutaneous injection at a dose rate of 5 to 10 mg for a considerable amount of time. More recently, because it would be a safer choice, lower doses of oestradiol benzoate (0.01 mg/kg) given on the third, fifth, and perhaps seventh days after mating have been recommended. Later-stage pregnancy abortion has also received attention.

2. **Natural PGF2α**

Exfoliative vaginal cytology confirmed that natural PGF2α, as opposed to analogues, is more effective when given subcutaneously twice daily consecutively at a dose rate of 150 to 270 mug/kg on days 10 to 14 after the bitch has entered metoestrus or pregnancy (Romagnoli et al. 1993). Previous reports that ended the pregnancy later—between 25 and 30 days—had unacceptably high adverse effects (Lein et al. 1989). Currently, it is questionable if PGF2α need to be employed for this objective.

3. **Progesterone-receptor antagonists**

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Progesterone-receptor antagonist therapy seemed to be a more acceptable and successful course of action (Galac et al. 2000, Fieni et al. 2001). In addition to preventing progesterone from acting at the receptor level, antiluteotrophic medication can also prevent progesterone from being synthesized by the CLs, hence inducing abortion.

4. Cabergoline

Dopamine agonists have been used to end bitch pregnancies; they include cabergoline, which inhibits prolactin release and so indirectly removes the luteotrophic support for the CLs. At 25 to 40 days of gestation, it has been administered subcutaneously for 5 days at a dosage rate of 1.65 mug/kg (Onclin et al. 1993). It has no unpleasant side effects, unlike the prolactin inhibitor bromocriptine, but it is not without risk because it can produce uterine inertia, which can lead to the retention of puppies that get macerated.The most usual way to provide cabergoline is orally (5 mug/kg) every day, whereas alternative parenteral routes are used to give cloprostenol (5 mug/kg) every other day. Usually, resorption or abortion occur ten days after treatment begins. Always keep a watchful eye on the bitch after terminating an undesired pregnancy, especially if sequential transabdominal B-mode ultrasonography is used.

Conclusion

The client must be consulted before deciding how to handle a mismate. If medication is to be taken, the client must be informed about its cost, safety, effectiveness, convenience, and compliance with treatment. In dogs, pregnancy could be safely and avoided with a single dosage of 0.20 mg/kg of oestradiol benzoate given two days after mating. It seems that embryonic deterioration resulted from oestradiol benzoate therapy delaying embryonic descent in the uterine tube.

References

Tsutsui, T. (1989). Gamete physiology and timing of ovulation and fertilization in Dogs. Journal of reproduction and fertility. Supplement, 39, 269-275.

Bowen, R. A., Olson, P. N., Behrendt, M. D., Wheeler, S. L., Husted, P. W., & Nett, T. M. (1985). Efficacy and toxicity of oestrogens commonly used to terminate canine pregnancy. Journal of the American veterinary medical association, 186(8), 783-788.

Weiss, D. J., & Klausner, J. S. (1990). Drug-associated aplastic anaemia in dogs: eight cases (1984-1988). Journal of the American Veterinary Medical Association, 196(3), 472-475.

Romagnoli, S. E., Camillo, F., Cela, M., Johnston, S. D., Grassi, F., Ferdeghini, M., & Aria, G. (1993). Clinical use of prostaglandin F2 alpha to induce early abortion in bitches: serum progesterone, treatment outcome and interval to subsequent oestrus. Journal of Reproduction and fertility. Supplement, 47, 425-431.

Lein, D. H. (1989). Termination of pregnancy in bitches by administration of prostaglandin F-2α.

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J. Reprod. Fertil. (Suppl.), 39, 231-240.
Galac, S., Kooistra, H. S., Butinar, J., Bevers, M. M., Dieleman, S. J., Voorhout, G., & Okkens, A. C. (2000). Termination of mid-gestation pregnancy in bitches with aglepristone, a progesterone receptor antagonist. Theriogenology, 53(4), 941-950.
Fieni, F., Topie, E., & Gogny, A. (2014). Medical treatment for pyometra in dogs. Reproduction in domestic animals, 49, 28-32.
Onclin, K., Silva, L. D., Donnay, I., & Verstegen, J. P. (1993). Luteotrophic action of prolactin in dogs and the effects of a dopamine agonist, cabergoline. Journal of reproduction and fertility. Supplement, 47, 403-409.