

Current Advances in Gestation and Parturition in Cats and Dogs

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KEYWORDS

• Cat • Dog • Fetal monitoring • Gestation • Pregnancy

Normal gestation ranges from 57 to 72 days post breeding in the dog and 52 to 74 days post breeding in the cat, depending on the breed (cat and dog) and litter size (dog only).^{1–5} The queen is an induced ovulator. The luteinizing hormone (LH) surge in cats occurs shortly after copulation with ovulation occurring approximately 24 to 40 hours later.^{6–8} Unless copulation is directly observed, the exact time of ovulation in the queen is often difficult to determine. In the bitch, the variability of gestation length when calculated from the breeding date is due to the variable lengths of proestrus and estrus between individual animals. More accurate measurements of gestational length in the dog are based on the LH surge, with whelping occurring 64 to 66 days post LH surge.⁹

Approximately 5 days post breeding, the feline morulae enter into the uterus and the zona pelucida is shed 10 to 12 days post breeding.¹ Following transuterine migration, implantation occurs 12 to 13 days post breeding.¹ Heart beats are first detectable at days 16 to 25 post breeding.¹

At 10 to 11 days following fertilization, the canine morulae replicates to form a 16-cell embryo.¹⁰ From day 18 to 20, the blastocyst sheds the zona pellucida and the embryonic vesicle lengthens to 3 to 6 mm.¹⁰ Transuterine migration throughout the uterine horns occurs during this period until implantation. Implantation of the canine embryo occurs at approximately 17 to 22 days post LH surge, and heartbeats are visible shortly after with ultrasound on days 23 to 25 post LH surge.^{2,10–13} At roughly 4 weeks of gestation, reliable diagnostic tools become available to confirm pregnancy.^{1,2}

The authors have nothing to disclose.

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Vet Clin Small Anim 42 (2012) 445–456

doi:10.1016/j.cvsm.2012.01.010

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Fig. 1. Ultrasound image of a canine fetus approximately 38 days post LH surge.

PREGNANCY DIAGNOSIS

Ultrasound is one of the most sensitive and reliable forms of pregnancy detection in the bitch and the queen.¹ Pregnancy diagnosis should be attempted around 25 to 30 days post LH surge in the bitch.^{2,12} The smallest fetal structures become apparent on ultrasound by skilled operators at 11 to 17 days post breeding in the queen and 17 to 20 days post LH surge in the bitch.^{4,11,12,14} Pregnancy is more easily diagnosed by ultrasound 21 days following the LH surge in the bitch (Figs. 1 and 2).² Ultrasound is not always reliable in determining the number of fetuses present.^{1,14}

Pregnancy diagnosis by transabdominal palpation is recommended at 22 to 30 days post LH surge in the bitch and at 21 to 25 days post breeding in the queen, when gestational sacs are palpable.^{1,2,4,14} Occasionally, gestational sacs are palpable earlier but this is not as reliable. Between 30 and 45 days' gestation in the dog and at day 35 post breeding in the cat, the gestational sacs become flattened and until fetal

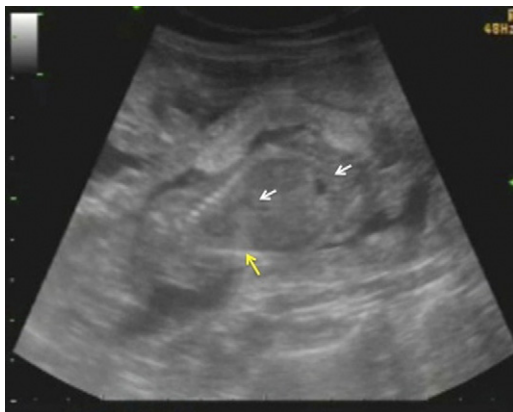


Fig. 2. Ultrasound image of a canine fetus approximately day 45 post LH surge. The urinary bladder and fetal stomach (white arrows) can be visualized and the fetal lungs (yellow arrow) are slightly more hyperechoic than the fetal liver.

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