

## Ultrasonographic appearances of the gestational structure throughout pregnancy in Miniature Schnauzer dogs

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Serial ultrasonographic examinations were daily performed on 9 Miniature Schnauzer dogs from day 15 until parturition to determine the time of first detection and ultrasonographic appearance of the fetal and extra-fetal structures and to determine the size of gestational structures. Gestational age was timed from the day of ovulation (day 0), which was estimated to occur when plasma progesterone concentration was first increased above 4.0 ng/ml. The gestational length in 9 Miniature Schnauzer dogs was  $63.0 \pm 1.7$  (mean $\pm$ SD; range 61-65) days.

The initial detection of the fetal and extra-fetal structures were: gestational sac at days 18.0 (17-19); zonary placenta in the uterine wall at days 24.9 (23-26); yolk sac membrane at days 25.0 (24-26); amniotic membrane at days 27.7 (26-29); embryo initial detection at days 22.6 (22-23); heartbeat at days 23.4 (23-24); fetal movement at days 32.5 (32-34); stomach at days 31.2 (29-33); urinary bladder at days 32.6 (31-35); skeleton at days 34.9 (34-38) and kidney at days 42.2 (41-43), respectively.

Extra-fetal structures were measurable from days 17 to 60. Outer uterine diameter increased from  $6.5 \pm 1.1$  (mean $\pm$ SD) mm at day 17 to  $50.5 \pm 3.5$  mm at day 60, and inner chorionic cavity diameter increased from  $2.1 \pm 0.2$  mm at day 17 to  $37.2 \pm 4.4$  mm at day 60. The length of chorionic cavity or zonary placenta increased from  $7.5 \pm 1.4$  mm at day 20 to  $45.9 \pm 4.8$  mm at day 56. Of the extra-fetal structures, inner chorionic cavity diameter was the most accurate for estimation of gestational age until day 38.

Fetal structures were measurable from days 22 to 63. Crown-rump length increased from  $2.6 \pm 0.1$  mm at day 22 to  $84.3 \pm 2.8$  mm at day 43, fetal body diameter increased from  $6.0 \pm 0.9$  mm at day 30 to  $43.8 \pm 3.4$  mm at day 63, and fetal head diameter increased from  $3.4 \pm 0.6$  mm at day 27 to  $25.9 \pm 0.5$  mm at day 63, respectively. Of the fetal structures, fetal head diameter was the most accurate for estimation of gestational age from day 30 until day 60.

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