

PW187 - Effect of the expertise of the practitioner during the early pregnancy diagnosis by per rectum amniotic sac visualization with ultrasound on early pregnancy loss

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The objective of the present study was to evaluate the effect of the expertise of the practitioner during early pregnancy diagnosis by per rectal amniotic sac visualization with ultrasound (PD-US) on the early pregnancy loss.

A randomized blind experiment including 915 pregnancy diagnoses was performed from March 2014 to December 2015. Data derived from a single farm and the practitioners visits where once a week. Veterinarian A (VET-A; experienced, with more than 10y experience in PD-US) and B (non-experienced, with <1y experience in PD-US) performed early pregnancy diagnosis between days 28 and 34 after breeding.

A total of 915 pregnancy diagnoses performed in 59 veterinarian visits were analyzed (Vet-A 33 and Vet-B 26 visits, respectively). The same farm portable ultrasound machine equipped with a 7.5-MHz linear transducer was used by both professionals. All cows were reevaluated by transrectal ultrasonography between 49 and 56d post AI. All cows diagnosed non-pregnant at this time were recorded as having early pregnancy loss.

The percentage of cows pregnant at first diagnosis was $56.25 \pm 16\%$ and $57.23 \pm 18\%$ ($P > 0.05$) and the early pregnancy loss was 5.25 ± 9 and $10.8 \pm 11.2\%$ ($P = 0.029$) for Vet-A and -B, respectively. Hence, the percentage of early pregnancy loss was significantly higher for Vet-B (unexperienced) than for Vet-A. When segmenting the data by the time where Vet-B achieved more than one year of experience (June 2015), a similar difference was observed for the time before (5.22 ± 8.95 vs. $12.23 \pm 12.14\%$; $P = 0.038$), but after this time point, Vet-B obtained similar early pregnancy loss rate to that of Vet-A (5.36 ± 9.83 vs. $8.47 \pm 11.01\%$; $P = 0.620$).

It was concluded that PD-US during the late embryonic period for pregnancy diagnosis by non-experienced practitioners can increase the rate of early pregnancy loss; it is therefore recommended that extra education is achieved before implementing this type of diagnosis at the farms.

PW188 - Color Doppler Ultrasonography as a Tool to Assess Luteal Function in Saanen Goats

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This study aimed to use the color doppler ultrasound to assess the luteal function in pregnant and non-pregnant goats. Twenty Saanen does were estrus synchronized by two doses of $37.5 \mu\text{g}$ d-cloprostenol (Prolise®, Tecnopec, São Paulo, Brazil) at 7 d apart during the breeding season (Niteroi, Brazil, $22^\circ 52$ S). Females were mated by fertile bucks and ovarian ultrasound (7.5 MHz transducer; Sonoscape® S6, Shenzhen, China) exams were daily performed since ovulation (D0) for 21 d (estrous cycle). The luteal vascularity was objectively assessed by determining the number of pixels (NP) and intensity of pixels (IP) of Doppler colored dots from a frozen image in a computer program (ImageJ®, NIH, Bethesda, MD). In cases of ≥ 2 CLs/goat, the luteal vascularity data corresponded to the sum of all CLs present. Blood samples were collected daily for plasma progesterone (P4) analysis by RIA. Data were analyzed according to estrous cycle period: luteogenesis (days 0–15) and luteolysis (-72 to +72 h from $P4 < 1$ ng/mL). Parametric variables were



analyzed by ANOVA followed by Tukey's test and their associations by Pearson's correlation test. At D1 and D2, 85% and 100%, respectively, of CLs were detected. Luteogenesis period did not differ ($P > 0.05$) between goats that became ($n=11$) or not ($n=9$) pregnant. NP and PI increased until D9 (7352.7 ± 2491.4 and 853712.8 ± 291854.1 ; $P < 0.05$), while no significant increase was recorded later. P4 values increased until D8 (12.31 ± 3.09 ng/mL; $P < 0.05$), reaching its maximum on D10 (14.3 ± 3.0 ng/mL). Luteolysis was characterized by an abrupt decrease in NP, IP and P4 concentrations (< 1 ng/mL) within 24 h. NP and PI were correlated with the P4 concentration during both luteogenesis and luteolysis ($r = 0.71$ and $r = 0.79$; $P < 0.05$). The patterns of luteal vascularization and P4 between D15 and D21 was not altered in pregnant does. Double and triple ovulations were observed in 45% (9/20) and 30% (6/20) of the goats, respectively. NP and IP differed along luteogenesis according to the number of CLs/goat. Goats with ≥ 2 CLs showed higher NP and IP from D6, compared to females ovulating 1 CL. From D9 to D15 of the luteogenesis, IP and NP were higher ($P < 0.05$) as the number of CLs increased: 3 CLs $>$ 2 CLs $>$ 1 CL. Indeed, goats presenting three or two CLs showed higher P4 values compared to those of single ovulation (10.6 ± 3.4 and 10.2 ± 2.9 vs. 8.77 ± 3.1 ng/mL; $P < 0.05$). Finally, correlations among NP, IP and P4 values also increased depending on the number of CL/goat (1 CL: $r = 0.64$; 2 CL: $r = 0.69$; 3 CL: $r = 0.87$; $P < 0.05$). In conclusion, the color Doppler ultrasonography allowed CL identification at first day after ovulation. Furthermore, pixel analysis showed a great relationship with P4 values and it may be used as a tool to analyze CL functionality of cyclic Saanen goats.

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PW189 - Comparative evolution checked by computed tomography of fibro-cartilaginous tissue of pubic symphysis between early pregnant and maiden guinea-pig sisters, during their first year of life

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A dogma about breeding of guinea pigs says that if a sow is bred, for the first time, after 8 to 12 months of age, risks of dystocia are very high due to fusion of pubic symphysis [1,2]. Without any scientific proof of that, most of breeders perform first mating of their sows before 6 months of age. The aim of the study was to verify this old wives' tale.

Twelve pairs of 2 guinea-pig sisters were used in this study. In each pair, one female was mated between 5 and 6 months of age, and the other one was kept maiden until at least 12 months of age. Every 7 weeks, a CT scan (microCT Siemens Inveon) was performed on each female from 4 to 12 months of age. Three measurements were done on the CT images: s = spacing between 2 acetabula, g = gap of pubic symphysis and d = density of tissue of pubic symphysis (as determined by the Hounsfield units), and the ratio g/s was calculated. Student's paired test and non-parametric Wilcoxon's test were used to analyze results.

There was no difference for d between the two groups and the evolution of d from the 1st to the last (5th) CT scan was the same in each group.

Before the parturition of early mated females there was no difference in the size of pubic symphysis between the 2 groups. There was a significant difference ($P < 0.05$) between the 2 groups for this size after the parturition of the early pregnant group.

There was no difference of ratio g/s for each female between the 1st and the 5th CT scan in maiden group, but, for each sow in the early pregnant group, this ratio g/s is significantly different before and after the parturition.