

Ultrasonic Assessment of Corpora lutea and Plasma Progesterone Levels in Early Pregnant and Non Pregnant Cows

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Abstract : Corpus luteum cross sectional (by ultrasonography) and plasma progesterone (by DELFIA) were estimated in early pregnant and non pregnant cows on days 14th and 20th to 23rd post insemination. On day 14th, corpus luteum sectional area was 348.43 mm² in pregnant and 387.84mm² in non pregnant cows. Within days 20th to 23rd, corpus luteum sectional area ranged between 342.06 and 367.90 mm² in pregnant and between 193.85 and 270.69 mm² in non pregnant cows. Plasma progesterone level was 2.43 ng/ml in pregnant and 2.46 ng/ml in non pregnant cows on day 14th, while during days 20th to 23rd the level ranged between 2.47 and 2.84 ng/ml in pregnant and between 0.53 and 1.17 ng/ml in non pregnant cows. Results of both luteal tissue areas as well as plasma progesterone levels were highly significantly different ($P < 0.01$) between pregnant and non pregnant cows during days 20th to 23rd, but there were no significant differences on day 14th. The correlation between CL cross-sectional area and plasma progesterone level was 0.4 in pregnant cows and 0.99 in non pregnant cow. It is clear, from this study, that ultrasonic assessment of corpora lutea is a viable alternative to determine plasma progesterone levels for early pregnancy diagnosis in cows.

Keywords : progesterone, ultrasonography, corpus luteum, pregnancy diagnosis, cow

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