

Effect of fetal number on the concentrations of circulating maternal serum progesterone and estradiol of does during late pregnancy

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Abstract

Twenty Etawah-cross does with similar body weights (20–22 kg) and ages (2–3 years) were used to study the effects of fetal number (single or twin) on serum concentrations of progesterone and estradiol during the last two months of pregnancy. Average serum progesterone concentrations during the last two months of gestation period in the single- and twin-bearing markedly increased ($P < 0.01$) by 1302 and 2591%, respectively, as compared to those non-pregnant does (5.791 and 11.113 vs. 0.413 ng/ml). Serum progesterone concentrations increased by 92.4% ($P < 0.01$) as fetal number increased from single to twin. Concentrations of serum estradiol during the last two months of gestation period in the single- and twin-bearing increased ($P < 0.01$) by 684 and 2006%, respectively as compared to those in the non-pregnant does (68.84 and 184.93 vs. 8.78 pg/ml). Serum estradiol concentrations increased by 169% ($P < 0.01$) as fetal number increased from single to twin. Average serum progesterone and estradiol concentrations of aborted does had decreased to a very low level, but were still higher than those of non-pregnant does, at least seven weeks prior to abortion date (1.691 ng/ml and 14.46 pg/ml for aborted vs. 0.413 ng/ml and 8.78 pg/ml for non-pregnant does). It was concluded that hormonal stimulation for mammary gland growth and development may have increased with the increased fetal number during pregnancy in preparation for more milk synthesis for the newborn kids.

Author Keywords : Progesterone; Estradiol; Pregnancy; Goat

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