Induction of parturition in a goat with pregnancy toxemia using aglepristone

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Pregnancy toxemia is a metabolic disease in sheep and goats caused by negative energy balance and impaired gluconeogenesis resulting in hypoglycemia, lipid mobilization, ketonemia and ketonuria. It occurs due to increased metabolic demand of late pregnancy and is more prevalent when multiple fetuses are present. Pregnancy termination by cesarean section or induction of parturition is often required as part of the treatment. Aglepristone is a progesterone antagonist which acts by competitively binding to progesterone receptors. We hypothesized that aglepristone can safely induce parturition in goats with pregnancy toxemia with reduced likelihood of adverse reactions. We used aglepristone to induce parturition in a doe pregnant with triplets that was presented to the Oregon State University, Veterinary Teaching Hospital with pregnancy toxemia. A 7 year old Boer goat was presented with 5 days history of lethargy, prolonged recumbency, and partial anorexia. The doe was 145 days pregnant and presumed to be carrying triplets based on prior ultrasonography. Doe had a low body condition score (2/5), tachypnea, left pelvic limb grade 3 lameness, rumen hypomotility, and mild diarrhea. Serum chemistry analysis revealed hyperglycemia (95 mg/dl), hypocalcemia (7.8 mEq/l), hypomagnesemia (2.0 mg/dl) and elevated creatine kinase (682 U/l), aspartate transaminase (180 U/l), gamma-glutamyl transferase (33 U/l), and beta-hydroxybutyrate (58.38 mg/dl or 5.6 mmol/l) with low bicarbonate (tCO_2 19.3 mEq/l). Results were consistent with pregnancy toxemia, elevated muscle enzymes due to prolonged recumbency and metabolic acidosis. Presence of 3 viable fetus was established via transabdominal ultrasonography. Doe was given IV fluids (Lactated Ringer's solution and calcium gluconate), amino acids, vitamin B complex, and dextrose in addition to oral propylene glycol and IV flunixin meglumine. Given the value of kids and the importance of their survival, parturition was induced. A SC injection of aglepristone (2.5 mg/kg) was given on day 145 of pregnancy, with signs of parturition (abdominal contractions) 40 hours later. A digital vaginal examination identified adequate cervical dilation and all 3 kids were delivered alive and active with obstetrical assistance. Within 10 hours after Stage 2 of labor, all 3 sets of fetal membranes were expelled. Systemic signs of pregnancy toxemia started decreasing although she still had mild inappetence. Interval from injection to parturition was similar to that in Marjorera goats (36 - 42 hours) induced with a similar dose of aglepristone.[1] In conclusion, aglepristone was used with satisfactory efficacy to induce parturition in a goat, similar to that observed in goats induced with natural prostaglandins and analogues commonly used in veterinary practice. Onset of parturition occurred during a predictable interval after a single dose of aglepristone, without any additional treatment before the start of the expulsion phase.

Keywords: Caprine, parturition, inducing, aglepristone, RU 46534

Reference:

1. Batista M, Reyes R, Santana M, et al: Induction of parturition with Aglepristone in the Majorera goat. Reprod Dom Anim 2011;46:882-888.