Low dose prostaglandin F₂α for luteal regression in the bitch
J.A. Len, M.A.E. Vermeulen, B.E. Eilts, S.K. Lyle

Department of Veterinary Clinical Sciences, Louisiana State University, Baton Rouge, LA; Faculty of Veterinary Medicine, Utrecht University, Utrecht, The Netherlands

Commonly used doses of prostaglandin F₂α (PGF) for pregnancy termination in dogs (0.15–0.2 mg/kg) are associated with side effects including vomiting, defecation, hypersalivation, tachycardia and anorexia. We hypothesized that multiple, low doses of PGF will cause luteal regression without causing undesirable side effects. A protocol using low dose PGF to cause luteal regression and terminate pregnancy was evaluated in ten Walker-type hound bitches (~20 kg) housed at the Louisiana State University School of Veterinary Medicine during 14 diestrous periods. During diestrus or pregnancy (> 30 days) three pregnant and seven non-pregnant bitches were treated with 0.012 mg/kg SC of PGF (Lutalyse®, Pfizer Animal Health, New York, NY) (n= 10; PGF group) four times a day for five days or until pregnancy was terminated or 1.0 mL SC of 0.9% NaCl solution (n=4; CON group) four times a day for five days. Serum progesterone was measured each morning prior to treatment (AIA-360, TOSOH Bioscience Inc, San Francisco, CA). After each treatment, bitches were visually observed ~15 min for presence of side effects. Transabdominal ultrasound was used in the pregnant bitches to confirm fetal death and evaluate uterine contents. The difference in progesterone concentration (mg/mL) between days 1 and 3 for the PGF and CON groups were analyzed by a Student’s t test (SAS 9.1, Cary, NC) with significance set at p<0.05, including Satterthwaite’s method for sample populations with unequal variances. Mean (± SD) serum progesterone concentrations difference (decrease) between day 1 and day 3 (17.1 ± 10.6 - 1.5 ± 1.3 = 15.6 ± 10.6) of the PGF group was different (p<0.05), compared to the difference between day 1 and day 3 (10.0 ± 7.3 - 7.6 ± 2.0 = 2.4 ± 5.6) of the CON group. A mild brownish vaginal discharge was observed starting on day 2 to 3 and became abundant on days 4 and 5. Ultrasound examinations on day 3 revealed fetuses with heartbeats, however by day 5 no fetuses or fluid were observed within the uterus. Only one of the bitches in the PGF group showed a side effect, which consisted of a mild tachypnea that subsided within 15 min. The hypothesis that low dose PGF (0.012 mg/kg SC) causes luteal regression with minimal or no side effects was supported, and is a good alternative for pregnancy termination in bitches >30 days of gestation.

Keywords: Prostaglandin, progesterone, luteal regression, pregnancy

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