

THERIOGENOLOGY

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GONADOTROPIN-RELEASING HORMONE-LIKE FACTORS IN THE SEMINAL PLASMA OF THE DROMEDARY CAMEL (Camelus dromedarius)

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It has been shown that an ovulation inducing factor (GnRH-like factor) is present in the seminal plasma of the bactrian camel (Zhao et al., Proc. 1st Int. Camel Conf., 163-168, 1992). This study was conducted to examine the presence of such a factor in the seminal plasma of the dromedary camels. Semen samples were collected from a dromedary of proven fertility and the seminal plasma (SP) separated and stored at -20°C . Forty male and 40 female immature rats (mean \pm SD weight: 47.4 ± 0.32 and 37.7 ± 0.36 gm, respectively) were used. They were divided equally into 8 groups, each containing 5 males and 5 females. Group 1 served as the control while groups 2 to 7 were injected im twice daily for 4 d as follow: 25, 50, 75, 100, 125, 150 μl seminal plasma, respectively. Group 8 received 5 μg of synthetic GnRH (Fertagyl, Intervet, Boxmeer, Holland) at the same intervals. On Day 5, all rats were killed and the testes and ovaries were removed, weighed and sectioned. Follicles were counted and classified according to their diameter (small <100 μm , medium 100-200 μm and large follicles >200 μm). Data were statistically analyzed using SAS. The results showed that weights of testes and ovaries increased ($P<0.05$) in rats treated with SP or GnRH, with highest responses being obtained with 125 and 150 μl of SP and with GnRH compared to control (1.00, 1.12 and 1.71 vs 0.76 gm in males and 0.057, 0.057 and 0.053 vs 0.039 gm in females, respectively). The number of large follicles was higher in rats treated with GnRH, 125 and 150 μl of SP, while that of small follicles was higher in 25, 50 and 75 μl of SP compared to control (5.3, 4.0 and 7.3 vs 2.0 large follicles and 22.0, 12.3 and 12.0 vs 2.7 small follicles, respectively). These results indicate that the effect of seminal plasma on testes and ovaries was similar to that of GnRH, suggesting that an ovulation inducing factor might be present in seminal plasma of the dromedary camel.