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The Effects of Different Doses and Patterns of Administration of Ovine FSH on Superovulatory Response and Embryos Recovery in Malaysian Goats

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This study was conducted to evaluate the effects of two doses of ovine FSH (Ovagen) and two patterns of administration on superovulatory response in goats. Twenty-eight mature mixed Malaysian crossbred does were synchronised for oestrus with CIDR devices for a period of 10-15 days. The response of the low compared with the high dose of ovine FSH were observed in Experiment 1 was involved two doses of ovine FSH (14.08 vs 8.8 mg ovine FSH per doe) given at 12 h intervals, starting 48 h prior to CIDR removal in 8 dosages over 4 days. The response to the same total dose of ovine FSH administered in multiple and single injection recorded in Experiment 2 was involved a total of 8.8mg ovine FSH per doe using two patterns of administration (multiple vs single) given i.m. upon CIDR withdrawal. Does were naturally bred using bucks. The embryos were surgically flushed and the ovarian response was evaluated on 3 or 7 days following CIDR removal. The total number of follicles induced, corpus luteum and anovulatory follicles were recorded for ovarian response. In Experiment 1, all does treated with multiple administered regime were observed to respond to the superovulation treatment with at least one CL. No differences were observed in the ratio of good responder (>10 CL) and moderate responder (5-10 CL) in both treatment groups. In the high dose group, 67% were good responders and 33% were moderate responders compared to 69% and 31% for the lower dose group, respectively. No significant differences ($p>0.05$) were observed for the follicles induction, ovulation, structure recovered and viable embryos rates in high and low dose treatment regime with the values of 23.7 ± 4.4 , 16.9 ± 3.9 , and 5.4 ± 2.4 and 2.0 ± 1.4 in the high dose compared to 20.0 ± 1.5 , 11.6 ± 1.0 , 3.2 ± 1.5 and 2.4 ± 1.1 in low dose treatment group, respectively. In Experiment 2, All does in multiple administered group responded to the superovulation treatment however, only 69% does in single administered responded, none were good responders, 23% moderate and 77% poor responders. The follicles induction, ovulation and structure recovered in single administered pattern were 8.5 ± 1.4 , 2.7 ± 0.7 and 0.5 ± 0.5 , significantly lower ($p<0.05$) compared to multiple administration group. Although no significant difference, the viable embryos rate in single administered was low (0.5 ± 0.5) compared to multiple administration (2.4 ± 1.1). It is concluded that, although no significant difference the multiple administration in the ovarian response, there is economic advantage of using a low rather than a high level of ovine FSH; however the administration of ovine FSH in multiple injections pattern is more efficient to induce goat follicular growth.

KEYWORD: Goats mature oocytes, ovine FSH, superovulation

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