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Abstract P265

The Effect of GnRH or hCG given on Day 12 Post-Mating on Ovarian Function and Embryo Development in Lohi Sheep at Southern Punjab, Pakistan

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Lohi is a famous breed of sheep in Pakistan with a small litter size. The present study was initiated to determine the effects of GnRH or hCG on ovarian function and embryo development to improve litter size. Twenty-one ewes were put to rams at synchronized oestrus by two injections of PGF_{2α} given at 11 days apart. These animals were divided into three groups (7/group) through random stratification by body weight. These were given either saline (Group I) or GnRH (Group II) or hCG (Group III) on day 12 post-mating. The blood samples were collected from 1 h before and 0, 2, 4, 6, 8, 24, 48 and 72 h after treatment for progesterone and oestradiol assays and were slaughtered on day 25 of pregnancy. Reproductive tracts were recovered, corpora lutea isolated, counted and weighed. Embryos were also recovered, weighed and measured for crown-rump length, amniotic sac length and width and numbers of caruncles forming placentomes were counted. Both GnRH and hCG increased plasma progesterone and oestradiol concentrations ($p < 0.05$) but hCG was stronger luteotrophic and compared with GnRH. Treatments with GnRH and hCG not only improved conceptus growth but also increased number of caruncles significantly. hCG proved to be stronger embryotrophic as compared with GnRH. In conclusions, the results of this study demonstrate that treatment with GnRH or hCG may be luteotrophic and embryotrophic and thereby could improve embryo survival.

Abstract P267

Ovarian Follicular Polycysts in Goats

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The aim of this study was to evaluate ultrasonographic characterization of the ovaries of goats, especially those with ovarian follicular cysts (OFC). In the breeding season, transrectal ultrasound scanning of both ovaries was performed twice a week in 50 Serrana goats. Ovarian structures ≥ 3 mm diameter were counted, measured and conformation noted. Simultaneously, blood samples were taken for plasma progesterone analysis. Oestrous behaviour and male acceptance was evaluated daily. After the last ultrasound examination, bilateral ovariectomy was performed in goats with persistent structures ≥ 10 mm and ovaries were examined histologically. OFC were identified in 6% (3/50) animals; one had 2 OFC in each ovary and two goats had 2 OFC on one ovary and a single OFC in the contralateral ovary. The mean diameter of OFC was 11.7 ± 0.9 mm (mean \pm SD; $n = 10$) and deformation of the spherical form was observed when two OFC were juxtaposed. In OFC goats, at least 1–3 follicles (3–7 mm diameter) were observed in each ovary at all ultrasound examinations and plasma progesterone values were always < 0.5 ng/ml. Intermittent nymphomania was also observed. OFC were confirmed histologically. In conclusion, transrectal ultrasonography is a reliable tool for diagnosis of ovarian cysts and polycysts in goats. Emergence of new follicles can occur in presence of follicular cysts.

Abstract P266

Sexual Response of Nulliparous and Multiparous Goats Submitted to the Male Effect

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The sexual response of nulliparous and multiparous goats was compared when submitted to the male effect using bucks rendered sexually active by a photoperiodic treatment of 2.5 months of long days (16 h of light/day) from November 1st. On April 14th, the multiparous ($n = 21$) and nulliparous ($n = 19$) groups were exposed to two sexually active buck/group. Oestrus was observed twice daily during 15 days. Ovulation rate was determined by ultrasound 5 and 18 days after teasing. Fertility was also determined by ultrasound, 50 days after the last detected oestrus. The proportion of females displaying oestrus at least once did not differ between the two groups (multiparous: 100%; nulliparous: 95%; $p > 0.05$). Also, the proportion of females ovulating at least once was the same in the two groups (100%; $p = 1$). However, the ovulation rate 18 days after introduction of the bucks was higher in multiparous than in nulliparous females (2.2 ± 0.2 and 1.5 ± 0.1 , $p < 0.001$). Also, fertility was higher in multiparous (21/21) than in nulliparous does (14/19; $p < 0.05$). The prolificacy did not differ between groups. We conclude that the initial physiological and behavioural responses of goats to teasing do not differ between nulliparous and multiparous goats. Nonetheless, the performance of multiparous does in terms of kids produced was much better than nulliparous does.

Abstract P268

Ovulation and Oestrus Synchronization using Fluorogestone Acetate Vaginal Sponges in Nulliparous Serrana Goats

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In order to determine the precise time of induced ovulation and oestrus after progestagen treatment in nulliparous Serrana goats, nine females aged between 2 and 3 years were used. In May, an intravaginal sponge impregnated with 45 mg of fluorogestone acetate was inserted for 12 days with the injection (i.m.) of 500 UI of eCG and 50 μ g of cloprostenol at sponge removal time. Oestrus was detected using a vasectomized buck. Blood samples were collected from the jugular vein of each goat every 4 h, during the first 24 h after the onset of oestrus for LH determination. A transrectal ultrasound scanning of both ovaries was also performed every 4 h, from onset of oestrus to 44 h later. Ovulation was detected by disappearance of the large follicles. Corpora lutea (CL) were counted by ultrasonographic observation, 7–10 days after ovulation. The onset of oestrus was identified 33.4 ± 2.7 h (mean \pm SD; $n = 9$) after sponge removal. The interval between sponge removal and preovulatory LH peak was 37.0 ± 3.6 h. Interval between sponge removal and ovulation was 56.7 ± 3.6 h with a minimum of 51.3 and a maximum of 62.3 h. The interval between preovulatory LH peak and ovulation was 20.0 ± 3.1 h. The mean number of CL observed per goat was 3.3 ± 0.7 . In conclusion, after this progestagen treatment, a low variation of the time of ovulation was found. The great number of CL suggests a small dose of eCG could be used in nulliparous Serrana goats during seasonal anoestrus.