Ovulation rate in alpacas mated to intact fertile or vasectomized males

J. Sumar, P. Arellano, R. Torres, Y. Picha, A. Tibary

Embryo Transfer Laboratory, SUMAC TARPUY, Ayaviri, Puno, Perú

Comparative Theriogenology, Veterinary Clinical Sciences, College of Veterinary Medicine, Washington State University, Pullman, WA

Alpacas are induced ovulators. Ovulation can also be successfully induced with injection of hCG or GnRH. A few alpacas may ovulate without copulation or exogenous hormones. Ovulation has been induced in alpacas by deposition of seminal plasma from alpacas, llamas and bulls, deep into the vagina.1 The origin of the ovulation inducing factor (OIF) is suspected to be the bulbourethral gland secretions. Our hypothesis is that other factors from the epididymis and testis may be involved in ovulation induction. This study was carried out to compare the ovulation rate obtained following mating to fertile entire or vasectomized males.

Sixty one (61) adult females were selected based on strong receptive behavior 5 days following administration of synthetic PGF2α (fenprostalene, 0.5 mg/head) to 81 alpacas. Females were randomly assigned to two groups; Group 1 (n=31) was mated with intact fertile males and Group 2 (n=30) was mated to laparoscopically vasectomized males. All females were examined by laparoscopy one week post-mating to record follicular and corpus luteum (CL) location, size and number.

The ovulation rate was 87.1 and 76.6% for Group 1 and Group 2 females, respectively (P>0.05). The CL sizes (mean ± SEM) were 10 ± 0.5 and 8.5 ± 0.8 mm for a left and right ovarian side in group 1 females, and 9.7 ± 0.7 and 8.1 ± 0.7 mm for the left and right ovarian side in the group 2 females. Double ovulations were recorded in 5 females from Group 1 and 2 females from Group 2. In single ovulators, there were significantly (P<0.05) more ovulations from the left ovary (63.9%) than from the right ovary (32.1%). There was no statistically significant difference (P>0.05) between the two groups for all parameters studied (ovulation rate, CL size and number).

In conclusion, this trial does not provide evidence that secretions from the testis and epididymis are necessary for ovulation or corpus luteum development. However further studies are warranted because of the sample size.

Keywords: Alpaca, ovulation, reflex, mechanism, OIF

Reference