ABSTRACT BOOK

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W03
METHODS FOR ELIMINATION OF SEMINAL PLASMA VISCOSITY AND ITS RELATIONSHIP WITH OXIDATIVE STRESS IN ALPACA SPERMATOZOA

S. Evangelista-Vargas [1], M. Vilca [1], P. Quijano [1], A. Santiani [2], A. Ugarelli [1]
[1]Laboratorio de Biotecnología Reproductiva y Celular, Universidad Científica del Sur / Lima, Perú
[2]Laboratorio de Reproducción Animal, Facultad de Medicina Veterinaria, Universidad Nacional Mayor de San Marcos / Lima, Perú

BACKGROUND-AIM
The high viscosity of alpaca semen obtained through artificial vagina makes laboratory handling difficult, for this reason, are used different methods allow viscosity elimination of seminal plasma in alpaca. Has been proved that these methods can affect the structure and functionality of spermatozoa, but not if exist an increase of reactive oxygen species production and hence oxidative stress. This study aimed to evaluate the effect of three seminal plasma viscosity elimination methods on oxidative stress in alpaca spermatozoa.
METHODS
Ten ejaculates of alpaca obtained by artificial vagina coupled on a dummy were employed in this study. Each sample was divided into three aliquots for the assessment of Mechanic Method (MM), Centrifugation (C), and Enzymatic Digestion (ED) with Papain and E-64. After treatments, flow cytometry was used to evaluate sperm viability (SYBR14/PI), mitochondrial membrane potential (MitoTracker Deep Red FM), lipid peroxidation (BODIPY® 581/591), and mitochondrial superoxide production (MitoSOX™ Red). Sperm motility was also assessed. The effect of the methods on the percentages of motility, sperm viability, mitochondrial membrane potential, lipid peroxidation, and mitochondrial superoxide production were evaluated using a one-way ANOVA.
RESULTS
Percentages of sperm motility, sperm viability, and mitochondrial membrane potential, were higher on samples treated with the ED method ($p<0.05$). In addition, percentages of mitochondrial superoxide production and lipid peroxidation and were lower on samples treated with the ED method compared to the other two techniques.
CONCLUSIONS
We conclude that treatment with Papain and E-64 (Enzymatic Digestion) for the elimination of seminal plasma viscosity in alpacas is better than mechanic method and centrifugation because produces between 10 to 20% less oxidative stress, respectively.

W04
EFFECT OF 1000 IU OF SYNTHETIC ECG LIKE GLYCOPROTEIN ON FOLLICULAR DEVELOPMENT AND EMBRYO RECOVERY IN LLAMAS

L. Rosseto [1], M.F. Gallelli [2], C. Bianchi [3], G. Franco [1], M. Miragaya [4]
[1]Cátedra de Reproducción Animal, FCV, UNLPam, La Pampa, Argentina
[2]Consejo Nacional de Investigaciones Científicas y Técnicas, Buenos Aires, Argentina; Instituto de Investigación y Tecnología en Reproducción Animal (INITRA), Facultad de Ciencias Veterinarias, UBA, Buenos Aires, Argentina
[3]Consejo Nacional de Investigaciones Científicas y Técnicas, Buenos Aires, Argentina; Laboratorio de Endocrinología, CIVETAN, Fac. de Cs. Veterinarias, UNCPBA, Tandil, Argentina
[4]Instituto de Investigación y Tecnología en Reproducción Animal (INITRA), Facultad de Ciencias Veterinarias, UBA, Buenos Aires, Argentina

BACKGROUND-AIM
The aim of this study was to evaluate the effect of a synthetic eCG like glycoprotein on follicular development and embryo production, as an alternative to native eCG in llamas.
METHODS
Twenty non-gestating and non-lactating llamas were examined daily by transrectal ultrasonography (tUS) to asses ovarian status (MyLab One Vet, ESAOTE) until a growing follicle with a diameter ≥7 mm, considered ovulatory in this species, was observed. At that moment, females received 8 µg of a GnRH analog (IV) (buserelin acetate, Gonaxal® Biogénesis Bagó, Argentina) (Day 0). On Day 3, tUS was performed to confirm the absence of follicles > 5 mm and then animals were divided in two groups: eCG-N (n= 10) received 1000 IU of native eCG (IM) (Novormon®, Syntex, Argentina), and eCG-R (n= 10) received 1000 IU of a synthetic eCG like glycoprotein (IM) (Syntex, Argentina). On Day 7, all llamas were injected with 112.5 µg of cloprostenol (IM) (Enzaprost®, Biogénesis Bagó). On Day 10, the number of ovulatory follicles were determined by tUS and then llamas were mated with a male with proven fertility. Afterwards, females were injected with 8 µg of buserelin acetate (IV) and 24 h later, natural mating was repeated with another male, in order to minimize the male effect. On Day 18, the number of corpus luteum (CL) that developed after mating were assessed by tUS and then embryo recovery was performed by uterine flushing. The number of follicles that developed after treatment and the number of collected embryos between groups were compared by Mann-Whitney test. The number of CL that developed after mating between groups were compared by unpaired t-test. Values are expressed as mean ± SEM.
RESULTS
No significant differences were observed between groups in the number of ovulatory follicles observed on Day 10 (10.5±2.9 vs. 8.4±1.3 in the eCG-N and eCG-R, respectively), nor in the number of CL that developed after mating (9.2±3 vs. 8.2±1.2 in the eCG-N and eCG-R, respectively). The number of collected embryos did not show significant differences between groups (2.6±1.1 and 3.3±1.1 in the eCG-N and eCG-R, respectively).
CONCLUSIONS
The synthetic eCG like glycoprotein shows a similar effect with regards to follicular development and embryo collection than the native eCG.