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DOSE SPECIFIC EFFECTS OF IONOMYCIN ON PARTHENOGENETIC ACTIVATION OF *in vitro* MATURED DROMEDARY OOCYTES

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ABSTRACT

Evaluation of the dose-specific effects of ionomycin on the parthenogenetic activation of *Camelus dromedarius* oocytes was done in the present study. Ovaries were collected from a local slaughterhouse. Cumulus-oocyte-complexes (COCs) were aspirated and cultured in a commercial IVM medium (BO-IVM) for 42 hrs in a humidified atmosphere containing 5% CO_2 at 38°C. All metaphase II oocytes were activated either 2.5 µM, 5.0 µM or 10.0 µM of ionomycin for 4 min. Activated oocytes were immediately incubated in 2.0 mM 6-dimethylaminopurine (6-DMAP) in a commercial embryo culture medium (BO-IVC) for 4 hrs at 39°C in a humidified incubator with 5% CO_2. Oocytes were cultured in BO-IVC for 7 days and developmental stages were monitored and recorded. After 42 hrs of *in vitro* maturation, 71.28% of oocytes were found with the extruded first polar body (metaphase II oocytes). The oocytes in the 5.0 µM of ionomycin group showed the highest blastocyst formation rate (56.99%) compared to the 2.5 µM (6.58%) and 10.0 µM (1.81%) groups. We recommended 5.0 µM of ionomycin for 4 min followed by incubation in 2.0 mM 6-DMAP for 4 hrs to activate camel oocytes.

Key words: Camel, *in vitro* maturation, ionomycin, oocytes, parthenogenetic