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# THE EFFECTS OF RECOMBINANT HUMAN GONADOTROPHINS ON IN VITRO MEIOTIC COMPETENCE OF DOG OOCYTES

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Because of reproductive physiology of domestic dog is different from the most other mammalian species; despite many attempts to improve the in vitro maturation (IV rate of canine oocytes using various procedures, the in vitro maturation rates still very l compared with other domestic animals. Hormone expenditure is the most expensive par in vitro studies. This situation makes an obstacle of in vitro studies in dogs that already w low success rates. In this study, recombinant human gonadotropins which are much chea than those of pituitary originated ones and have been successfully used for other mamm have been used. Ovaries were collected from 20 dogs and maintained in physiolog saline at 4°C until oocyte recovery for 2-3 hours. After rewarming, the ovaries were sli and rinsed by washing medium (heparin supplemented HEPES modified TCM 199 obtain cumulus oocytes complexes (COCs). A total of 845 COCs were selected and u for IVM. In vitro maturation (IVM) of oocytes was performed in Synthetic Oviduct F (mSOF) at 38°C in a humidified atmosphere with 5% $CO_2$ for 72 h. In order to deter the effects of human recombinant gonadotropins, maturation medium was suppleme with two different concentrations (0.5 IU/ mL and 1.0 IU/ mL) of pituitary (pFSH, p and human recombinant (rhFSH and rhLH) gonadotrophins. At the end of IVM pe the nuclear maturation rates were investigated under a fluorescent microscope after 2 min Hoechst (33342) staining. Finally, the recombinant gonadotrophin results were f superior than the pituitary ones. The highest IVM (MI+MII) rates were found in 0.5 1.0 IU pituitary gonadotrophin groups (52.41% and 49.73% respectively) and the lo maturation rate (34.57%) was found in 1.0 IU human recombinant gonadotrophin g In conclusion of this study, in which recombinant human gonadotropins were used f first time in vitro maturation of dog oocytes; it can be said that the biologically de hormones, rather than the recombinant human gonadotropins, are beneficial for in maturation of canine oocytes.

**Key words:** dog, oocyte, in vitro maturation, recombinant, gonadotrophin

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