Reproductive performance of rabbit does artificially inseminated with semen supplemented with GnRH analogue [des-Gly10, D-Ala6]-LH-RH ethylamide

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Abstract

The aim of the study was to evaluate the ability of a GnRH synthetic analogue [des-Gly10, D-Ala6]-LH-RH ethylamide to induce ovulation in rabbit does using intravaginal administration. A total of 138 primiparous lactating does were randomly divided into 4 groups that at the time of insemination received following treatments for ovulation induction: 1 μg of buserelin administered intramuscularly (control group); 5 μg of [des-Gly10, D-Ala6]-LH-RH ethylamide added to the semen dose (D5 group); 10 μg of [des-Gly10, D-Ala6]-LH-RH ethylamide added to the semen dose (D10 group); 15 μg of [des-Gly10, D-Ala6]-LH-RH ethylamide added to the semen dose (D15 group). Kindling rates were 68.8% in D10 and 66.7% in D15 groups and were comparable to that obtained in the control group (72.2%). The kindling rate in group D5 (29.4%) was significantly lower than those recorded in the other groups. The number of live born kits was not significantly affected by the ovulation induction treatment. The results of this study show that [des-Gly10, D-Ala6]-LH-RH ethylamide added directly into the semen dose can effectively stimulate ovulation in rabbits. The dose of 10 μg of [des-Gly10, D-Ala6]-LH-RH ethylamide per doe was sufficient to produce results comparable to those obtained by intramuscular administration of buserelin.

Key words: rabbit, ovulation induction, GnRH analogue, insemination

Introduction

The physiology of reproduction in the rabbit doe is characterized by induced ovulation. Mating induces a neuro-endocrinological reflex which provokes an LH pulse that leads to ovulation. When using artificial insemination (AI), ovulation has to be induced by artificial methods. The most frequent method used for ovulation induction in rabbits is the intramuscular administration of GnRH or its synthetic analogue. With a view to improving insemination practices, individual ovulation induction by means of subcutaneous or intramuscular treatment of GnRH analogue solution could be substituted by mucosal absorption after...