ABSTRACTS

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EFFICACY OF CANINE EMBRYO RECOVERY WITH OR WITHOUT OVARIOHYSTERECTOMY

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Introduction - Canids present indispensable ecological functions for the ecosystem stability as being at the peak of the food chain and mainly as a seed spreader, because of their omnivorous diet. Therefore, their conservation is of primordial importance (Plano de ação, 2004). However, as endangered animals, obtention of samples for scientific purposes is difficult. Thus, the use of the dog as an experimental model is justified (Hewitt & England, 2001). The aim of this study was to compare the efficacy of the canine embryo recovery with or without ovariohysterectomy, allowing the obtention of genetic material for cryopreservation studies (data not shown).

Materials and methods - Eight cross-bred, adult bitches were used. The animals were detected in proestrus by vulvar edema and serosanguineous vulvar discharge. Vaginal smears were taken every other day until heat detection. Bitches were mated or artificially inseminated at 48h intervals, until the end of estrous. For surgery, animals were premedicated with acepromazine (0.1 mg.kg⁻¹) (Acepram 1%®, Univet, Brazil) and induced with the association tiletamine-zolazepan (7.5 mg.kg⁻¹) (Zoletil®, Virbac, Brazil). The bitches were submitted to laparotomy, twelve days after the first mating or artificial insemination. In the G1 bitches (n=4), a punctiform perforation with a 18-gauge needle was performed at the uterine body, where a size 4 urethral catheter for the flushing was inserted. Previously to the flushing, the regions cranial to the flushing catheter, between the uterine body and cervix, and the contra lateral uterine horn were occluded to avoid embryonic loose. An intravenous 22 or 24-gauge catheter was inserted near to the uterine tubal junction for the flushing with 0.9% NaCl solution, in a 30 ml total volume, per uterine horn. The G2 bitches (n=4) were submitted to ovariohysterectomy (OVX) and after that flushing was fulfilled. After introduction of a 25x7mm needle near to the uterine tubal junction, flushing was performed as previously described and recovered to Petri dishes. In the G2 bitches flushing was recovered by the uterine body opening originated by the OVX. The embryonic structures were evaluated and classified for the development level under stereomicroscope at 10X and 40X. The ovaries were sectioned for the corpora lutea (CLs) counting and the recovery rate was calculated dividing the total number of embryonic structures by the total CLs in each group.

Results - Twenty-one and 27 embryonic structures were recovered on groups 1 and 2, respectively. A total of 30 and 28 CLs were identified on G1 and G2 bitches’ ovaries, respectively. From the total 48 embryonic structures recovered, 24 blastocysts (50.00%) at different levels of development, 9 morulaes (18.75%), 7 degenerated embryos (21.21%), 6 oocytes (12.50%) and 2 ruptured zona pellucidas (6.06%) were identified. The recovery rate was 70.00% and 96.42% for the G1 and G2 bitches, respectively, and did not differ statistically by the Student’s t- test (SAS, 2006).

The technique used in the G1 bitches would be applied to endangered canids, as it is not necessary to sterilize the animal, but requires a careful handling of the uterus and ovaries. Moreover, it is not know which would be the effects of consecutive surgical embryo collections. The flushing chosen day was benefic for a high blastocyst and morulae recovery, however the progesterone measurement for LH preovulatory surge estimation, ovulation detection and breeding management allows timing embryonic development and entry of
embryos into the uterus (Tsutsui, 1989; Bysted et al., 2001). It is concluded that both techniques are efficacious and promote a high recovery rate.

References


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