Effects of cryopreservation method on the development of caprine *in vivo* blastocysts [1]

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Abstract

The aim of this study was to evaluate the developmental capability of caprine blastocysts by means of different freezing and thawing approach and to establish a simple and effective technique for cryopreservation of caprine embryos. Results indicated that the resumed rates of frozen-thawed caprine embryos vitrifying by either microdrop (66.6-81.8%) or open pulled straw (OPS) (47.4-75.0%) were significantly greater than that of slow-freezing (8.0-34.0%) during a period of 24 h culture *in vitro* ($P < 0.001$). In the case of hatching rate, both microdrop and OPS to be superior to slow-freezing (81.4 and 72.7 *vs.* 41.1%) on cultured frozen-thawed caprine blastocysts *in vitro* were demonstrated ($P < 0.05$). Moreover, the pregnant rate (68.7 *vs.* 61.5%) and embryos transfer efficiency (56.2 *vs.* 53.8%) of caprine blastocysts vitrifying by the microdrop were similar to those of unvitrified blastocysts ($P > 0.05$) subsequent of resumed blastocysts transferring to the recipient females. These results indicated that vitrification of embryos in a microdrop was a promising technique with commercial potential for cryopreservation of caprine embryos.

Key words: Caprine, Blastocyst, Vitrification.

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