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The Effects of Preservation of Ovaries, Incubation Time and Oocytes with and without Cumulus Cells on Zona Penetration by Canine Sperm

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The study was carried out to investigate the effects of preservation of ovaries and oocytes with and without cumulus cells and incubation time on zona penetration by canine spermatozoa. The objective of this study was to produce *in vitro* fertilized oocytes and solute canine sterile.

1. Sperm penetration of oocytes with and without cumulus cells recovered from 4°C and salt-stored canine ovaries for 48 hrs were 2.5%, 37.5%, 42.5% and 22.4% respectively. That was significantly lower than the sperm penetration(93.3%, 56.7%) of oocytes recovered from fresh ovaries of without any intact treatment.
2. Sperm penetration of oocytes with cumulus cells recovered from fresh and 4°C- stored canine ovaries for 4, 24, 48 hrs were 92.5%, 90.0%, 85.0%, respectively. That was similar or a little lower than the sperm penetration(93.3%) of oocytes with cumulus cells recovered from fresh ovaries.
3. Sperm penetration of oocytes with cumulus cells recovered from fresh and salt-stored canine ovaries for 4, 24, 48 hrs were 85.0%, 77.5%, 72.5%, respectively. That was lower than the sperm penetration(93.3%) of oocytes recovered from fresh ovaries.
4. *In vitro* fertilization rate of canine oocytes with cumulus cells recovered from fresh, 4°C and salt-stored ovaries for 24 hrs were 50.0%, 22.5%, 40.0%, 15.0%, respectively. This result was lower than *in vitro* fertilization rate(72.5%, 32.5%) of fresh canine oocytes with cumulus cells.

Key words: *Canine, 4°C and salt-stored ovaries, Sperm penetration*