Freezing Capacity of Epididymal Spermatozoa From Dogs After Cool Storage for 2 or 4 Days

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Abstract

An experiment was conducted to investigate the freezing ability of canine epididymal spermatozoa after cool storage at 5°C for 2 or 4 days. Epididymal spermatozoa were collected from the caudal epididymis. Total motility, plasma membrane integrity and acrosome integrity were evaluated before freezing immediately on harvesting and after 2 or 4 days of storage at 5°C, and at 0 and 2 h post-thaw. Prior to freezing, the motility of stored spermatozoa was significantly decreased, compared to freshly harvested spermatozoa ($P<0.001$). Although there was no significant effect of time of storage on post-thaw motility, there was a tendency towards decreased sperm motility on Day 4, compared to Day 0 ($P=0.09$). The number of spermatozoa with intact plasma membrane significantly decreased on Day 4 ($P<0.001$). There was no significant effect of storage time on the acrosomal status of post-thaw spermatozoa. In conclusion, the freezing of canine epididymal spermatozoa stored at 5°C for up to 4 days had no detrimental effect on post-thaw motility and acrosome integrity but storage may have decreased total motility.

Keywords: Domestic animals, Dogs, Canine, Spermatozoa, Cryopreservation, Epididymis

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