



An investigation on cauda storage of sperm in hamster epididymis

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Abstract. Most of the scientific research on epididymal functions of epididymis deal with epididymal sperm maturation but not on sperm storage. Therefore, the present study was undertaken to determine the sperm storage time using hamster cauda epididymis of hamster. Ligation of epididymal tubule at the junction between the distal corpus and the proximal cauda was carried out to determine the storage time. Total sperm count, motility, viability and morphology of cauda sperm were studied during the storage time. On day 40, the total number of cauda sperms was reduced remarkably ($5 \times 10^6 \pm 2227/\text{ml}$). That amount is more than fifty times reduction when compared to that of day 3 ($281 \times 10^6 \pm 182617$). In the experimental groups and control, 3% to 6% of sperm motility was maintained until day 40. By day 3 of post-ligation, live sperm percentage was 50% and it was decreased to $11.6 \pm 4.2\%$ by 40th day of post ligation, of live spermatozoa were found (Dead spermatozoa, $88.3\% \pm 19.8$) and the normal sperm percentage was about 24% in treatment groups and it varied significantly ($p < 0.000$). Both percentages of viability and motility of spermatozoa of cauda epididymis were decreased when the number of days of post-ligation increased. By day 32 of post-ligation, 76% of cauda spermatozoa appeared abnormal with head defects, mid piece and neck defects, tail defects, headless, tailless and multiple defects. In conclusion, this study suggests that cauda sperm storage time is more than 40 days. Motility, viability and morphology of these spermatozoa were decreased remarkably during this storage time

Key words: Cauda, spermatozoa, sperm storage, motility, viability, morphology, hamster