Mammalian spermatozoa after release from the germinal epithelium undergo maturational changes in the epididymis (Cooper, 1986). Speram acquire progressive motility as well as fertilizing ability while they transit from caput to cauda regions of the epididmis. Without epidiymal transit spermatozoa are immature and cannot undergo successful fertilization under in vivo conditions.

In the present study acquisition of motility by hamster (mammalian) epididmal spermatozoa was investigated using computer assisted perm analysis technique (CASA). The Hobson sperm tracker was used to investigate the sperm motility parameters. Sperm

were recovered from different regions of the epididymis and diluted ten times in principal cell medium (PCM) medium as mentioned previously (Samayawrdhena and Moore, 1998). Straight-line velocity (VSL) changed from proximal corpus (34 (1.2 (m/ S), distal corpus (50 (3.6 (m/s), proximal cauda (81 (3.5 (m/ s) and disal cauda (77 (2.8 (m/s). Curvilinear velocity (VCL) changed from 172 (4.3 (m/s in proximal corpus, 208 (10.2 (m/s distal corpus, 261 (7.3 (m/ s proximal cauda to 250 (4.2 (m/ s in distal cauda. Changes in velocities (VSL and VCL) of spermatozoa were statistically significant in compared to the values obtained for proximal corpus ($P<0.0001$). caput sperm were not progressively motile completely but showed twitching of their tails to some extent.

The data of the present study agrees mainly with the findings of Mohri and Yanagimachi, (1980) where non-progressive motility of caput sperm recorded. Moving from the testis, proximal corpus sperm were the first to show progressive motility. But according to Suarez (1988) and Girija Devi and Shivaji (1994) corpus sperm do not survive very long in vitro. Present stud aggress to that. Rat sperm from the distal corpus display highly progressive motility (Yeung et al., 1992). It is quite clear that in hamster, acquisition of motility was gradual from the proximal corpus to distal corpus and increased further till the distal cauda. region. The present work shows that acquisition of sperm motility in the mammalian epididymis is a gradual process form proximal to distal regions and CASA is a good tool to investigate sperm motility.