

Transformations of Sperm Nuclei Incorporated Into Aged and Unaged Hamster Eggs

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The extent of male pronuclear development in aged and unaged hamster eggs was examined by electron microscopy. Observations are presented demonstrating that although hamster eggs, aged 18 hours *in vivo* and lacking zona pellucida, may be fertilized *in vitro*, transformation of incorporated sperm nuclei into male pronuclei is significantly retarded. By 6 hours postinsemination, 50% of the sperm nuclei incorporated into aged eggs failed to disperse (vs. 19% in unaged eggs); sperm were observed in various stages of dispersion (20%), but only 30% developed into pronuclei (vs. 18 and 63% in unaged eggs, respectively). These results are discussed in reference to concepts of nucleocytoplasmic interactions involving male pronuclear development.

Key words: pronuclear development, aged and unaged ova

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