

Sperm-Egg Interaction

Evidence for Maturation Changes During Epididymal Transit

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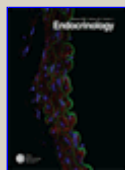
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A study *in vitro* of interactions between uncapacitated rat spermatozoa and freshly ovulated rat oocytes showed that testicular spermatozoa were unable to adhere to the zona pellucida. On the other hand, spermatozoa from the cauda epididymidis adhered readily to the zona surface. Experiments with cauda spermatozoa, immobilized by a preincubation at 0 C, indicated that they were still able to attach to the zona pellucida, suggesting that the inability of testicular spermatozoa to interact with the zona was not primarily due to their lack of motility but rather to a defect in adhesive properties of the plasma membrane. Preincubation of testicular spermatozoa, with a purified glycoprotein secreted by the epididymis (PES), increased somewhat the ability of testicular spermatozoa to interact with the zona surface. These results show that epididymal spermatozoa acquire the ability to recognize and interact with the zona pellucida as they pass through the epididymis, and suggest that sperm coating with an androgen-dependent and specific glycoprotein, secreted by the epididymis, may regulate the initial contact with the egg investments.

Key words: sperm, epididymis, egg, binding, rat

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