9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Key Lectures

K-31
In vitro spermatogenesis in artificial testis for male infertility

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Increasing male infertility rates have led to a greater need for new artificial testicular systems in order to preserve fertility. Laboratory studies have shown that preservation, proliferation, differentiation, and transplantation of spermatogonial stem cells or testicular tissue could be ways to maintain the fertility of childhood cancer patients and azoospermic men in the future. In this regard, tissue and cell culture, supplements and 3D scaffolds have created a new perspective on the differentiation of stem cells in vitro, which could improve the outcomes of male infertility. The 3D matrix appears to allow for the formation of colonies and the proper arrangement of testicular cells, although differentiation has not yet been fully obtained. Therefore, in the future, new systems will be needed so that they can cause proliferation and maturation of germ cells in laboratory conditions and ultimately produce functional sperm by emphasizing regeneration of the germ cell microenvironment.