An Amazing Trip

"... I really enjoyed my stay in Iran. The Royan congress was wonderful and I was very happy to have many Iranian friends there. Although the journey there was not very easy (from obtaining my visa to flying from Seoul to Tehran), I think I made right visiting to Iran. As well as the congress, discussions and chats with Iranian fellows, young researchers and students were very helpful to me for understanding Iranian thoughts and their values. Although I cannot agree with all of their opinions, at least many gaps between me and them definitely were shorter or smaller than before. I hope I may have another chance to meet some of Iranians in Iran or in somewhere in the world. Thank you again and see you later.

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Research Projects in Royan Institute

Projects on Process

- Administration of Methylprednisolone for Prevention of Ovarian Hyperstimulation Syndrome
- Patient Specific Induced Pluripotency Stem Cells (PSiPS)

Finished Projects

- Assessment of bovine blastocysts survival rate after in vitro cryotop and cryoloop vitrification methods
- Comparison of expansion and differentiation of the supernatant and primarily-adherent mesenchymal stem cells from rat marrow primary culture
- Mutation analysis of CFTR gene in patients with congenital bilateral absence of vas deferens (CBAVD)
Evaluation of the leptin receptor in human spermatozoa.


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BACKGROUND: Leptin, a 167 amino acid peptide hormone, profoundly impacts reproduction exerting its biological effects via interaction with the leptin receptor (ObR) which is widely expressed on peripheral tissues. In this study, we assessed leptin receptor expression in the spermatozoa of fertile males and those diagnosed with male factor infertility; both at the mRNA or protein levels.

METHODS: Semen samples were collected from fertile males and individuals with male factor infertility. In order to evaluate leptin receptor expression several techniques were utilized, including: reverse transcriptase-polymerase chain reaction (RT-PCR), immunostaining, flow cytometry, and western blotting. Mononuclear cells isolated from volunteers’ peripheral blood were used as positive controls for leptin receptor expression.

RESULTS: Leptin receptor was noted on mononuclear cells but we were unable to detect this receptor on spermatozoa at the protein level. Leptin receptor expression was detected on peripheral blood mononuclear cells (PBMCs) as positive controls; however it was not detectable on the spermatozoa of both groups by immunofluorescence microscopy or flow cytometry. Furthermore, positive expression of the ObR long isoform as assessed by RT-PCR was observed in the sperm of only four cases, whereas expression of beta-Actin, a house keeping gene, and HspA2, a testis specific gene, was present in all cases.

CONCLUSION: The long isoform of leptin receptor may not be present on human sperm. Species difference may be accounted for diverse reproductive physiology which depends on metabolic requirement. Leptin receptor expression at the mRNA level in some individuals may be related to contamination by other cells in semen.

Effect of laser zona thinning on vitrified-warmed embryo transfer at the cleavage stage: a prospective, randomized study.

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The aim of this study was to determine if laser zona thinning could improve the rates of pregnancy and implantation for vitrified-warmed embryo transfer at the cleavage stage. A total of 400 vitrified-warmed embryo transfer cycles were randomly assigned to either the test group or the control group. The zona pellucida of vitrified-warmed embryos in the patients of the control group was untreated, whereas in the test group it was partially thinned by laser just before embryo transfer. In the test group, the clinical pregnancy and implantation rates were significantly lower as compared with that of the control group (28.5 versus 43.0, P=0.002, and 11.2 versus 16.7, P=0.004, respectively). Therefore the results of this investigation show that laser zona thinning may have an unexpected adverse effect on the rates of clinical pregnancy and implantation of vitrified-warmed embryos at the cleavage stage. Copyright © 2009 Reproductive Healthcare Ltd. Published by Elsevier Ltd. All rights reserved.
Infertility Increases a Man’s Risk of Prostate Cancer

The study’s results suggest that because infertility may be an identifiable risk factor for prostate cancer, early screening may be warranted in infertile men. Research focusing on the number of children a man has has pointed to male fertility’s potential associated with risk for prostate cancer. However, studies on the topic have generated conflicting results: some have found that men with children had a higher risk than childless men; some have found that men with fewer children had a higher risk than men with more children; still others failed to identify any association between the number of children fathered and a man’s risk for prostate cancer. Because the number of children a man has may not accurately reflect his ability to cause a pregnancy, Thomas Walsh, MD, MS, of the University of Washington in Seattle and his colleagues designed a more accurate study to evaluate the association between male infertility and prostate cancer. They studied the risk for prostate cancer in a group of 22,562 men evaluated for infertility from 1967 to 1998 in 15 California infertility centers. The incidence of prostate cancer in these men was compared with the incidence in a sample of men in the general population who were of similar ages and from similar geographic locations. The researchers identified 168 cases of prostate cancer that developed in men who were evaluated for infertility. That number was significantly different from the expected rate (185 cases), suggesting that overall, men evaluated for infertility were at a higher risk of being diagnosed with any type of prostate cancer compared with men in the general population. However, men who were evaluated and found to be infertile were 2.6 times more likely to be diagnosed with high-grade prostate cancer than men who were evaluated but were found not to be infertile. The authors say if these results are confirmed in other studies, it may be appropriate for infertile men to be considered for early prostate cancer screening, given their elevated risk for aggressive disease. They add that the results should stimulate research on possible common biological pathways underlying infertility and prostate cancer.

http://www.sciencedaily.com/releases/2010/03/100322073530.htm
selected as capital and commenced another golden age. In this period, Esfahan was one of the most thriving and important cities of the world. The famous Persian philosopher Avicenna lived and taught there in the 11th century.

In 1387, Esfahan surrendered to the Turko-Mongol warlord Timur. Initially treated with relative mercy, the city revolted against Timur’s punitive taxes by killing the tax collectors and some of Timur’s soldiers. In retribution, Timur ordered the massacre of the city residents and his soldiers killed a reported 70,000 citizens. An eye-witness counted more than 28 towers, each constructed of about 1,500 heads.

As the result of its suitable geographic situation, Esfahan flourished again especially during the Safavid dynasty.

The Golden Age of Esfahan arrived in the 16th century under Shah Abbas the Great (1587–1629), who conquered it and made it the new capital of the Safavid dynasty. During the reign of Shah Abbas I, who unified Persia, Esfahan reached its pinnacle. Esfahan had parks, libraries and mosques that amazed Europeans, who had not seen their like on their continent. The Persians called Esfahan, Nesf-e-Jahan (half the world), meaning that to see it was to see half the world, and also referring to it as a point where many cultures and nationalities meet and mingled. In its heyday, Esfahan was one of the largest cities, with a population of over half a million; 163 mosques, 48 religious schools, 1801 shops and 263 public baths. In 1722, following the defeat of the Safavids in the Battle of Gulnabad, Afghans raided Esfahan after a long siege, which left much of the city in ruins. Although the Afghans were a primary cause of Esfahan’s decline, it can also be attributed to competition from maritime commerce developed by European merchants from such countries as the Netherlands. Esfahan’s wealth originated in its role as a chief waystation along the trans-Asia trade route (such as the Silk Road). Such land trade dwindled as the cheaper sea routes increased in popularity for transporting commodities between Asia and Europe.
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