Beauty, artistry and innocence are her guise,
Her beauty-mole is that fair face’s prize,
And hence, in both worlds, will of the Good, with her lies.
The secrets that seek the wise, with her lies.

**Hafiz (1328-1389 A.D)**

"...It was a great pleasure to participate on the trip to Shiraz and Isfahan. I was very impressed by the ancient culture sites like Persepolis and the Necropolis and it was a great moment to be physically in places I know from my history classes.
The trip was well organized, the guides were excellent. Though only one day in Isfahan was too short I am glad that I was there to get an impression of this beautiful old city. There are too many wonderful places to see and I wish I had more time for the visits.
But nevertheless I am very excited that I had the opportunity to join the trip and I would like to express my gratitude for the invitation."

*An Amazing Trip*

**Best wishes**

- Marianne Moser
  Landesfrauen-und Kinderklinik Linz
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Increased numbers of mast cells (MCs) have been associated with different types of infertility, including varicocele. Despite there being different reports on improved fertility following administration of MC blockers, there is no report on the effect of a MC blocker on varicocele or after varicocelectomy. Therefore, the aim of this study was to evaluate the effect of Zaditen on semen quality, protamine content, DNA damage and fertility post-surgery. The study included 103 infertile men who were referred to Isfahan Fertility and Infertility Center for varicocelectomy. Varicocele individuals were randomly divided into control (52) and treatment groups (51). Semen parameters, WBC/mL, protamine content (chromomycin A3 staining) and DNA integrity (sperm chromatin dispersion test) were assessed months after surgery. Comparison of the aforesaid parameters before and 3 between the two groups revealed significant improvement in the treatment group compared with the control group, with the exception of DNA integrity. In months addition, the cumulative pregnancy significantly improved by 9 post-surgery in the treatment group (41.17%) compared with the control group (21.15%). The results of this study, for the first time, reveal that MC blockers such as Zaditen improve semen parameters, chromatin integrity and pregnancy rates when administered as adjunct therapy post-varicocelectomy.

**Mol Vis. 2010 Aug;18;16:1680-8.**

**Assessment of heat shock protein (HSP60, HSP72, HSP90, and HSC70) expression in cultured limbal stem cells following air lifting.**

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**Abstract**

OBJECTIVES: The aim of this study is to create an ex vivo model to examine the expression of major heat-shock protein (HSP) families; HSP60, HSP72, and HSP90, and heat-shock cognate 70 (HCS70) at the mRNA and protein level in differentiating corneal cells from limbal stem cells (LSC) following air exposure.

METHODS: Limbal biopsies taken from cadaveric normal human limbus were cultivated as explants on human amniotic membrane (HAM) and plastic dish (PD). Corneal differentiation was induced by air lifting for 16 days. The expression of putative LSC markers (P63 and ATP-binding cassette G2 [ABCG2]), corneal markers (keratin 3 [K3/12] and connexin 43 [CX43]), and HSP60, HSP72, HSP90, and HSC70 were tested by RT-PCR, immunofluorescence, and flow cytometry pre- and post-air exposure. Fresh limbal and corneal tissues were used as control groups.

RESULTS: Air lifting induced corneal differentiation with a decrease in the number of P63(+) cells and an increase in the number of K3(+) /CX43(+) cells, this study used cultured limbal stem cells following air lifting.

**Int J Androl. 2010 Sep 27. doi: 10.1111/j.1365-2605.2010.01112.x.**

**Zaditen (Ketotifen), as mast cell blocker, improves sperm quality, chromatin integrity and pregnancy rate after varicocelectomy.**


Stem Cell Department, Cell Science Research Center, Royan Institute, Tehran and Biomaterials Group, Faculty of Biomedical Engineering (Center of Excellence), Amirkabir University of Technology, Tehran and Faculty of Biomedical Engineering, Azad University, Tehran - Iran.

**Abstract**

Surgery is considered the most common choice for the treatment of male infertility with clinical varicocele.
which characterized transient amplifying cells (TACs). Moreover, denuded HAM provided a superior niche for LSC proliferation and phenotype maintenance in vitro. Additionally, we have evidence that expressions of HSC70 as well as HSP72 were enhanced through corneal differentiation and HSP90 post-air lifting in vitro and in vivo. HSP60, however, was not detected in either LSC or corneal cells, in vivo and in vitro.

CONCLUSIONS: These results suggest that corneal differentiation following air exposure may regulate HSP72 and HSC70 expression. In addition, HSP72 and HSP90 may protect LSC and corneal cells against oxidative stress.
Science News

**Discovery May Help Identify the Healthiest Embryos in IVF Treatment**

ScienceDaily (Nov. 1, 2010) Australian scientists have developed a potentially groundbreaking new measure of the health of an embryo and the likelihood of a successful pregnancy in IVF treatment.

The research could lead to significantly improved birth rates in IVF to help the one in six Australian couples experiencing infertility to achieve their dream of parenthood. It also has the potential to predict the gender of an embryo prior to implantation.

The study conducted by the University of Melbourne and Repromed is being presented at the Fertility Society of Australia annual scientific meeting at the Adelaide Convention Centre.

Professor David Gardner, Head of the Department of Zoology at the University of Melbourne, said the study related specifically to the glucose intake of embryos from the solution in which they grow in the laboratory. IVF units use this solution, or media as it is known, to provide a bed of nutrients for embryos fertilized in the laboratory from the eggs and sperm of couples who cannot naturally conceive. The glucose in embryo solution closely matches that which occurs naturally in the uterus.

Professor Gardner said fertility specialists knew the precise amount of glucose in the solution before inserting an embryo. “By measuring the level of glucose on day four or five after fertilization, we can determine how much has been consumed by a growing embryo,” he explained. “There is clear cut evidence that the greater the glucose intake the healthier the embryo.”

On average, IVF units generate between eight and ten embryos per cycle, of which about half will progress through cell division to what is known as the blastocyst stage after four to five days. “By measuring the glucose consumption of an embryo, we can better determine which is the healthiest embryo for transfer back to the patient,” Professor Gardner said.

The research involved 50 patients undergoing IVF. Thirty-two of the women had a positive pregnancy test after embryo transfer and 28 babies were born. “The 28 babies resulted from the embryos which had the highest glucose uptake,” Professor Gardner said. “Previous studies with animals have shown that the healthiest blastocysts are those with the greatest glucose consumption indicating the likelihood of a successful pregnancy.

“It is exciting to find that this process appears to be the same in people knowing that the glucose in embryo culture media is a major energy source for cell division and is required for biosynthesis to enable cell replication.” Professor Gardner said another potentially exciting aspect of the research was that female embryos appeared to take up more glucose than male embryos.

“This is a very early observation, but it may have the potential to help identify gender at early embryo stage,” he said. World leaders in assisted reproduction have gathered in Adelaide to explore latest research and clinical treatments to help couples experiencing infertility, which is defined as the failure to conceive after a year of unprotected intercourse, or the inability to carry pregnancies to a live birth.

Editor’s Note: This article is not intended to provide medical advice, diagnosis or treatment.

http://www.sciencedaily.com/releases/2010/10/101012101617.htm

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About IRAN, Mohammad-e Zakariā-ye Rāzī

Mohammad ibn Zakariyā Rāzī (محمد بن زکریای رازی), known as Rhazes or Rasis after medieval Latinists, (August 26, 865, Rey – 925, Rey) was a Persian physician, alchemist and chemist, philosopher, and scholar. He is recognised as a polymath, and biographies of Razi, based on his writings, describe him as “perhaps the greatest clinician of all times.”

Numerous “firsts” in medical research, clinical care, and chemistry are attributed to him, including being the first to differentiate smallpox from measles, and the discovery of numerous compounds and chemicals including alcohol and kerosene, among others. Edward Granville Browne considers him as “probably the greatest and most original of all the physicians, and one of the most prolific as an author.”

Razi made fundamental and enduring contributions to the fields of medicine, alchemy, music, and philosophy, recorded in over 200 books and articles in various fields of science. He was well-versed in Persian, Greek and Indian medical knowledge and made numerous advances in medicine through own observations and discoveries.

Educated in music, mathematics, philosophy, and metaphysics, he chose medicine as his professional field. As a physician, he was an early proponent of experimental medicine and has been described as the father of pediatrics. He was also a pioneer of neurosurgery and ophthalmology. He was among the first to use Humoralism to distinguish one contagious
disease from another. In particular, Razi was the first physician to distinguish smallpox and measles through his clinical characterization of the two diseases. As an alchemist, Razi is known for his study of sulfuric acid and for his discovery of ethanol and its refinement to use in medicine. He became chief physician of Rey and Baghdad hospitals. Razi invented what today is known as rubbing alcohol.

Razi was a rationalist and very confident in the power of rationalization; he was widely regarded by his contemporaries and biographers as liberal, free of prejudice, and bold in expressing his ideas.

He traveled extensively, mostly in Persia. As a teacher in medicine, he attracted students of all disciplines and was said to be compassionate and devoted to the service of his patients, whether rich or poor.

Allergies and fever

Al-Razi’s Recueil des traités de médecine translated by Gerard of Cremona, second half of 13th century. Razi is also known for having discovered “allergic asthma,” and was the first physician ever to write articles on allergy and immunology. In the Sense of Smelling he explains the occurrence of rhinitis after smelling a rose during the Spring: Article on the Reason Why Abou Zayd Balkhi Suffers from Rhinitis When Smelling Roses in Spring. In this article he discusses seasonal rhinitis, which is the same as allergic asthma or hay fever. Razi was the first to realize that fever is a natural defense mechanism, the body’s way of fighting disease.

Pharmacy

Razi contributed in many ways to the early practice of pharmacy by compiling texts, in which he introduces the use of ‘mercurial ointments’ and his development of apparatus such as mortars, flasks, spatulas and phials, which were used in pharmacies until the early twentieth century.

Ethics of medicine

On a professional level, Razi introduced many practical, progressive, medical and psychological ideas. He attacked charlatans and fake doctors who roamed the cities and countryside selling their nostrums and “cures”. At the same time, he warned that even highly educated doctors did not have the answers to all medical problems and could not cure all sicknesses or heal every disease, which was humanly speaking impossible. To become more useful in their services and truer to their calling, Razi advised practitioners to keep up with advanced knowledge by continually studying medical books and exposing themselves to new information. He made a distinction between curable and incurable diseases. Pertaining to the latter, he commented that in the case of advanced cases of cancer and leprosy the physician should not be blamed when he could not cure them. To add a humorous note, Razi felt great pity for physicians who took care for the well being of princes, nobility, and women, because they did not obey the doctor’s orders to restrict their diet or get medical treatment, thus making it most difficult being their physician.

He also wrote the following on medical ethics: “The doctor’s aim is to do good, even to our enemies, so much more to our friends, and my profession forbids us to do harm to our kindred, as it is instituted for the benefit and welfare of the human race, and God imposed on physicians the oath not to compose mortiferous remedies.”
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