

## 9<sup>th</sup> Yazd International Congress and Student Award on Reproductive Medicine with 4<sup>th</sup> Congress of Reproductive Genetics

### Key Lectures

#### K-77

#### Genetic aspects of male infertility

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About 15% of couples do not achieve pregnancy within one year and seek medical treatment for infertility. One in eight couples encounters problems when attempting to conceive a first child and one in six when attempting to conceive a subsequent child. Three percent of women remain involuntarily childless, while 6% of parous women are not able to have as many children as they would wish. Infertility affects both men and women. In 50% of involuntarily childless couples, a male-infertility-associated factor is found together with abnormal semen parameters. Male infertility is a common and severe health problem. Infertility not only affects one's ability to have children, but also has emotional, psychological, family, and societal effects. The incidence may be increasing during the time of those affected, roughly 40% have idiopathic infertility. It is likely that the majority of those patients have genetic abnormalities that are the cause of their infertility. The understanding of the genes involved in spermatogenesis, sperm maturation, and normal sperm function is key, but we must also focus on better methods of accelerating advances into meaningful clinical diagnostic tests and therapies. During the past 30 years, significant improvements in technology have advanced the treatment of male infertility and Genetic evaluation as well. The primary advance has been

intracytoplasmic sperm injection (ICSI) in conjunction with in vitro fertilization through ART cycles. Although this technological leap has allowed thousands of men to father a child who otherwise would have been unable to do so, the scientific study of the causes of male infertility has not kept pace. All urologists working in the field of Andrology must have an understanding of genetic abnormalities associated with infertility so that they can provide correct advice to couples seeking fertility treatment. Men with very low sperm counts can be offered a reasonable chance of paternity, using IVF, ICSI, and sperm harvesting from the testes in case of azoospermia

In fact, the clinical application of ICSI proceeded without sufficient scientific study of its safety to the offspring, or the future genetic ramifications several researchers and clinicians, and an international audience of experts in the field, reviewed the study of the genetics of male infertility, the tools available in the laboratory and clinic, the current state of knowledge, and the future of research and translation into clinical diagnostics and in this webinar the colleagues discussing the following aspects as:

- The genetics of male infertility in the era of genomics
- Important environmental factors on fertility potential
- DNA damage how can affect the fertility potential of male
- Methods and tools for the study of the genetics of male infertility
- Clinical approach for evaluation of azoospermia men
- Management of azoospermia due to microdeletions in y chromosome
- Regeneration approach as new tools for now and near future to generate spermatogenesis.