I-8: Male Sexual Dysfunction Management

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While previously considered the domain of younger generations, recent large cohort studies have demonstrated that many aging men and women engage in sex, with close to 50 % indicating that sex is important in their lives and with 26–90 % of men and women aged 70–90 years engaging in some form of sexual activity. Male sexual dysfunction can be categorized in to: loss of libido, erectile dysfunction, ejaculatory dysfunction, orgasmic dysfunction
Penile erection is a complex phenomenon which implies a delicate and coordinated equilibrium among the neurological, vascular and the tissue compartments. ED is defined as the persistent inability to attain and maintain an erection sufficient to permit satisfactory sexual performance. ED may affect physical and psychosocial health and may have a significant impact on the quality of life (QoL) of sufferers and their partners. There is increasing evidence that ED can be an early manifestation of coronary artery and peripheral vascular disease.
Although premature ejaculation (PE) is a common male sexual dysfunction, it is poorly understood. Patients are often unwilling to discuss their symptoms and many physicians do not know about effective treatments. As a result, patients may be misdiagnosed or mistreated.
In this lecture we will talk about different aspects of male sexual dysfunction (Epidemiology, etiology, pathophysiology, Risk factors, Diagnostic evaluation and Treatment options).

Animal Biotechnology

I-9: Reproductive Technologies in Small Ruminants: Environmental and Economic Effects in Iran

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Sheep and goat breeding have been a source of supply for meat, milk, wool, and other human-required products. Many breeds of small ruminants can graze in inferior rangelands considering important for their survival in Iran with its semi-arid climate. However, during recent years, drought and inappropriate use of rangelands made it very difficult to provide enough food to breeding sheep with traditional methods. Assisted reproductive technologies (ART) could increase the efficiency of reproduction in livestock, optimize the use of food resources and pastures and reduce production costs. Estrus synchronization protocols provide out of season reproduction and also apply other reproductive technologies such as artificial insemination and embryo transfer. Different methods of artificial insemination can increase the selection intensity in male and proliferate desirable traits. In embryo transfer technology, it is possible to select a superior mother, in addition to the father, and also is possible to provide several fetuses from the mother with the desired genes by superovulation methods. Diagnosis of pregnancy can improve herd health management and inhibit costs of feeding and maintaining barren sheep for several months. Cloning and producing transgenic animals are technologies that can help us face future challenges by accelerating genetic progress, helping to produce drugs, and preventing extinction of endangered species.

I-10: Epigenetic Reprogramming in Mammalian Development

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Epigenetic modifications established during gametogenesis regulate transcription and other nuclear processes in gametes, but also have influences in the zygote, embryo and postnatal life. The best-studied epigenetic modification is DNA methylation, which established at discrete regions of the oocyte and sperm genomes and governs genomic imprinting. Genomic imprinting is referred to an allele-specific methylation marking process that causes a sex-dependent monoallelic expression. These methylation marks remain on the paternal and maternal alleles into the next generation as a lifelong memory of parental origin. DNA methylation undergoes dramatic reprogramming after fertilization. The impairment of DNA methylation reprogramming behind assisted reproductive technologies (ART) and the recognition of most vulnerable sequence elements are new debating topics. Some studies showed the effect of culture media, ovarian stimulation or embryo transfer on the methylation pattern of embryos emphasizing the need to face ART-associated defects and search for strategies to mitigate adverse effects on the health of ART-derived children.

I-11: Folic Acid Deprivation and siRNA-Inhibition of Suv39h1/2 in Fibroblast Donor Cells Improves Reprogramming of Bovine SCNT Embryos

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Efficiency of SCNT has remained low due to a strong resistance of somatic donor cells to epigenetic reprogramming. Many epigenetic drugs, targeting epigenetic status of donor cells or reconstructed oocytes to improve development of SCNT embryos. In our recent studies, we examined the effect of siRNA inhibition and chemically inhibition of H3K9me3 and also induced DNA hypo-methylation following in vitro folate deficiency in fibroblast donor cells on in vitro development of bovine SCNT embryos. Chaetocin was supplemented during the culture of donor cells for 3 days. In addition siRNA knockdown of SUV39H1/H2 was done in donor cells. Both chaetocin and siSUV39H1/H2 significantly reduced the relative intensity level of H3K9me3 in fibroblast cells. siSUV39H1/H2 transfection but not chaetocin treatment improved in vitro development of SCNT embryos. In addition, siSUV39H1/H2 altered the expression profile of the selected genes in the derived blastocysts