

## Reproductive Endocrinology Mania Radfar\*

Department of Clinical Pharmacy, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran

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### Editorial

Reproductive endocrinology may be a wide and lively research field attracting considerable attention due to its implications in lifestyle. More than 1,000 articles published in the past year were found under the search words used, of which 22 papers were selected. This chapter hosts a spread of papers handling many important aspects of reproductive endocrinology including the function of latest and old genes, puberty, gonads, stem cells for gametogenesis, impact of lifestyle and environmental factors on reproduction, placental origin of psychiatric disorders, reproductive behavior. Some other chapters of this book can also host publications handling subjects associated with reproduction. There are in fact many other excellent articles published within the sector of reproductive endocrinology during the past year, some that we'd have missed in our search and yet others which weren't possible to incorporate thanks to space limitation. The aim has been to present a mixture of experimental and clinical publications advancing our knowledge within the sector of reproductive endocrinology. The selected papers obviously represent our own bias but we hope you discover a number of them interesting to read and helpful for your daily add clinical and experimental pediatrics endocrinology.

The onset of puberty is first detected as a rise of the pulsatile secretion of gonadotropin-releasing hormone (GnRH). Too early activation of the hypothalamic-pituitary-gonadal axis results in central precocious puberty (CPP). The timing of pubertal development is driven partially by genetic factors, but only a couple of, rare molecular defects related to CPP are identified. Methods: Whole-exome sequencing in 40 members of 15 families with CPP was executed. Candidate variants were confirmed with Sanger sequencing. Quantitative real-time polymerase-chain-reaction assays to determine levels of messenger RNA (mRNA), in the hypothalami of mice at different ages, were also performed. Results: Four novel heterozygous mutations in MKRN3 were found in 5 of the 15 families; both sexes were affected. MKRN3 is the gene encoding makorin RING-finger protein 3. The mutations

#### \*Corresponding author:

Mania Radfar

✉ radfarma@tums.ac.ir

Department of Clinical Pharmacy, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran, Tehran 1411413137, Iran

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included three frameshift mutations, predicted to encode truncated proteins, and one missense mutation, predicted to disrupt protein function. MKRN3 may be a paternally expressed, imprinted gene located within the Prader-Willi syndrome critical region. All affected persons inherited the mutations from their fathers, a finding that indicates perfect segregation with the mode of inheritance expected for this imprinted gene. Levels of Mkrn3 mRNA were high in the arcuate nucleus of prepubertal mice, decreased immediately before puberty, and remained low after puberty.

This is an interesting study on sexual behavior in human females in relation to the menstrual cycle and probability to conceive. The main finding was that women with more sexually attractive partners (according to self-reported criteria) slept less when the probability of conception was higher, while women with less attractive partners slept more. The decreased sleep at high fertility periods may reflect a strategic shift to reproductive effort when conception is most likely. The authors also suggest that women with less attractive partners are strategically avoiding conception. How these strategies affect everyday health and wellbeing of girl's remains to be studied.