International Journal of Endocrinology

Special Issue on

Steroidogenic Machinery in Reproduction, Homeostasis, and Beyond

CALL FOR PAPERS

Maintenance of normal reproductive development and function, as well as bodily homeostasis, is dependent on steroid hormones. Cholesterol is the substrate for biosynthesis of steroid hormones, oxysterols, and bile acids and is a vital component of cellular membranes. Regulation of steroidogenesis is primarily dictated by trophic hormones and other steroidogenic stimuli, in which several factors and pathways play permissible roles. The rate-limiting step in steroid hormone biosynthesis is the intramitochondrial transport of cholesterol. Whereas the precise mechanism involved in cholesterol transport remains mysterious, a mitochondrial protein complex, comprising the steroidogenic acute regulatory protein, is recognized. Even so there are a number of nutritional, environmental, and psychological challenges that can influence cholesterol/steroid led activities through the action of hormones. Transcriptional and translational controls of genes involved in regulating steroidogenesis have also been elucidated in many physiological processes.

Dysregulation of cholesterol metabolism and/or steroid biosynthesis is linked to hormonal imbalance which results in a wide variety of health complications along with a host of pathologies such as infertility, cardiovascular diseases, immune disorders, and aging and skin diseases that depreciate the quality of life, especially in aging populations. Growing evidence also points to the malfunction in steroidogenic machinery in breast, endometrial, and ovarian tumors/cancers, which are the foremost cause of morbidity and mortality all over the world. Whereas ample progress has been made in understanding these health concerns, there are still considerable gaps in knowledge and controversial observations that cannot explain numerous complications and disorders. Additional findings are, therefore, warranted to further understand several physiological and pathophysiological consequences associated with lipid/cholesterol metabolism and/or steroidogenic signaling, reflecting progression of pertinent diseases, their diagnosis, and appropriate therapies.

We invite investigators to contribute original research articles, clinical studies, and review articles which will promote continuing efforts to comprehend the influence of steroidogenic machinery in a variety of cholesterol and/or steroid led complications and diseases, as well as developing strategies to treat these conditions for improving the health and quality of life in the 21st century and thereafter.

Potential topics include, but are not limited to:

- Regulation of cholesterol trafficking, metabolism, and balance
- Hormonal regulation of steroid biosynthesis and steroidogenic machinery
- Transcriptional, translational, and posttranslational regulation of genes involved in the steroid biosynthetic pathway
- Role of lipoproteins in steroid hormone regulation
- Regulation of steroidogenesis by proteins, peptides, nutrients, cytokines, growth factors, prostaglandins, steroids, and drugs that lower steroids and/or steroidogenic enzymes
- Involvement of coregulators in the steroidogenic response
- Steroidogenic machinery in male versus female reproduction
- Dysregulation of steroidogenic enzymes in relevant gynecological disorders
- Role of neurosteroids in reproductive development/function and homeostasis
- Mutation(s) in steroidogenic enzymes/proteins in human health issues and development of diseases
- Control of lipid signaling and its impact on cholesterol/steroid coupled human diseases
- Influence of lipid/cholesterol in metabolic disorders and tumors/cancers
- Malfunction in cholesterol synthesis in skin complications and age-related diseases
- Roles of vitamins in skin physiological system and in aging
- Restoration of hormonal dynamics in healthy aging

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/ije/mrhb/.

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