



## Preface

The 12th International Congress on Hormonal Steroids and Hormones & Cancer was held in Athens on 13–16 September 2006. This congress included 6 plenary lectures and 20 symposia with 4 speakers each. The program was exciting and of very high quality as well illustrated in the present book of proceedings of 20 of these lectures.

Much emphasis was on frontline fundamental data and their application in the clinic. For example, six manuscripts describe the intracellular intracrine formation of estrogens and androgens with data monitoring changes in sex steroid levels in the breast tumor tissue during aromatase inhibitor treatment in order to avoid the well recognized lack of correlation between serum and tissue levels of estrogens. Interesting data are presented on a model of breast cancer which analyzes the mechanisms of action of the progesterone receptor, especially its interaction with kinases as important mediators of progesterone action. A series of data describe the progesterone-activated kinase cascades which act independently from direct progesterone receptor nuclear action. Information is also presented on endocrine disruptors, such as phthalates and phenols, which influence the activity of steroid-metabolizing enzymes, thus acting through non-genomic mechanisms. Discussion is also made of the estrogenic as well as antiestrogenic activity of phytoestrogens. Mechanisms involved in endometrial cancer are also presented.

Among the factors potentially involved in prostate cancer, the correlation between prostatic inflammation and prostate cancer is described with the suggestion that proliferative inflammatory atrophy is a precursor of PIN and cancer. In a study using humanized androgen receptor (AR) mice, evidence was obtained emphasizing the importance of AR in prostate cancer sensitive to androgen blockade as well as the one which has become resistant to such treatment. These data add to the evidence already available on the implication of AR at all stages of prostate cancer therapy. Among the genes potentially involved in prostate cancer, androgen-induced bZIP (AlbZIP/CREB3L4) is expressed at a higher level in prostate cancer and PIN than in noncancerous tissue. Data identify the genes modulated by this androgen-sensitive transcription factor. Another paper presents evidence for the role of the elongated polyglutamine tract in spinal and bulbar muscular atrophy or Kennedy's disease, a disease characterized by neurotoxicity.

Data are presented on the effect of a selective inhibitor of some protein kinases with a good rate of response in renal car-

cinoma. A discussion is also presented on the benefits observed at the preclinical and clinical levels of the combination of a monoclonal antibody against the B-cell antigen CD20 and chemotherapy in lymphoid cancer.

Androgens are well known to be negatively correlated with abdominal obesity in men. Discussion is presented on the potential mechanisms, especially site-specific modulation of preadipocyte proliferation and/or differentiation as well as site-specific lipid biosynthesis and/or lipolysis in mature adipocytes. Since androgen in women are largely made from adrenal dehydroepiandrosterone (DHEA) and are synthesized locally in target tissues by intracrine mechanisms, it is of interest to obtain information on the mechanisms regulating DHEA secretion by the adrenals. In men, about 50% AR of androgens are made in peripheral tissues from intracrine mechanisms. One manuscript provides information on the role of the steroidogenic enzymes of the zona reticularis, the site of DHEA formation. It is also of interest to see data about the salt-inducible kinase which regulates the activity of a cAMP-responsive element (CRE)-binding protein (CREB) in the adrenals.

Glucocorticoids are used for the treatment of a long series of diseases, including cancer in patients receiving chemotherapy, a treatment having osteoporosis as complication. Studies of the mechanisms of glucocorticoid-induced osteoporosis are presented, especially the effect on bone microarchitecture. The effects of glucocorticoids on the central nervous system, especially depression are also discussed. Finally, a review is presented on the mechanisms of action of aldosterone in the kidney and colon and the extrapolation of these data to other specific target tissues.

A review is presented on the multi site effects of estrogens in the central nervous system. Estrogens are well known to have a series of specific effects in the central nervous system, the effects being frequently antidopaminergic. The role of estrogen receptors alpha and beta in the central nervous system is investigated, thus leading to the identification of specific roles for these two estrogen receptors. As a complement, a study summarizes the effect of various hormones, including growth hormone, on age-related phenomena often related to oxidative stress, cell damage as well as apoptosis.

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