

Foreword

Multiple Origins of Sex Differences in Brain. Neuroendocrine Functions and their Pathologies

In theoretical terms, sex differences in brains and behaviors of laboratory animals offer the possibility of fascinating scientific studies on a range of molecular phenomena such as genomic imprinting, DNA methylation, chromatin protein modification, non-coding DNA, potentially resulting in important neuroanatomical and neurochemical sex differences in the brain. Such sex differences could arise consequent to exposures to testosterone early in development, or to other effects deriving from the Y chromosome. However, this general subject has been treated with much hyperbole. Historically, sex differences were assumed to be present where they did not really exist, e.g. with respect to mathematics, executive leadership, etc. etc. Under what circumstances do we really care about sex differences in brain and behavior? These circumstances concern human maladies whose diagnoses are much different between boys and girls, or between women and men. Prominent examples discussed in this volume include autism, attention deficit hyperactivity disorders and congenital adrenal hyperplasia. In fact, infant boys are more susceptible than infant girls to a variety of disorders that arise early in development. This volume then ends with a consideration of effects of estrogenic hormones on the injured brain, and their roles as protective agents.

This volume contains the proceedings of the XIth Colloque Médecine et Recherche of Fondation Ipsen held in Paris, on December 3, 2011 which bring together clinicians and basic scientists working in endocrinology and neuroscience.

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