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Pubertal assays in toxicology: Focus on reproductive function

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Abstract

Over the past two decades, the detrimental effects of endocrine disruptors (EDs) on wildlife and humans have become a major public health concern. These compounds have a variety of origins and can act as agonists or antagonists of androgens and estrogens, which are key hormones involved in many physiological processes. Puberty is a period of dramatic neuroendocrine development that culminates in reproductive maturation. It requires extensive interplay between a variety of hormones, organs and tissues. Therefore, the puberty/peripuberty phase is considered a period of increased sensitivity to environmental agents. Since the endocrine system plays a critical role in the development of the male reproductive system and in the initial and maintenance of normal function, this system is an especially vulnerable target of potential endocrine disruptions. The epididymis is an organ of the male reproductive system that plays a crucial role on the acquisition of sperm motility and fertilizing capacity. These functions are performed within the different specialized microenvironment created along the interior of epididymal duct, which are established during the postnatal development of this organ. This presentation will focus on the detrimental effects of the exposure of immature animals to endocrine disruptors and the possible consequences in reproductive health, epididymal function and sperm quality in adulthood.

Biography

Juliana Elaine Perobelli is a Biologist. She completed her Ph.D. in Cell and Structural Biology, University of Campinas, Brazil during 2008-2012. She did Scientific Visit/ Short Training in the US Enviromental Protection Agency (USEPA), Toxicology Assessment Division, Reproductive Toxicology Branch in the year of 2011. Currently she is working as a Professor and Researcher in the Universidade do Sagrado Coração, Brazil in the area of Environmental Toxicology and subarea Reproductive Toxicology. At the moment, she is working with pubertal assays applied in reproductive toxicology.