Jorma Toppari

Report on my sabbatical year in the Department of Growth and Reproduction, Copenhagen, Denmark

I’m very grateful for the grant of the Sabbatical Leave Programme from the European Society for Paediatric Endocrinology through an educational grant from Lilly USA, LLC. This made it possible for me to work in the Department of Growth and Reproduction, Copenhagen, Denmark, from August 1, 2010 to July 31, 2011. I had close collaboration with the large group of scientists and clinical endocrinologists, including Anders Juul, Niels E. Skakkebaek, Katharina M. Main, Niels Jorgensen and many younger colleagues.

We focussed our work on the on-going puberty follow-up study where we studied the developmental (fetal and early childhood) effects on pubertal maturation. The ultimate end of pubertal maturation is adult reproductive capacity, and this was the other focus area. We analyzed results of the 15-year-follow up studies of semen quality in young adults. To assess the influence of environment on development we analyzed both chemical exposures and gene-environment interactions in children and young men with or without reproductive disorders, such as cryptorchidism, hypospadias, hypospermatogenesis, and/or testicular cancer. The year gave also a possibility to write some reviews on these topics, including an invited WHO monograph on possible developmental effects of endocrine disrupters on child health (Toppari et al., 2011).

This year’s work will be published over the next few years, but already this year we achieved interesting results that were published, e.g.: Semen quality of Finnish men has deteriorated during the last 15 years, and at the same time the incidence of testicular cancer has rapidly increased in Finland (Jorgensen et al., 2011). Thus, Finnish men appear to suffer from the same reproductive health problems that raised concern in other European countries earlier.

Smoking was recognized as a risk factor for poor spermatogenesis, not only after fetal exposure, but also in adults (Ravnborg et al., 2011).

Mild analgesic drugs, such as paracetamol, was found to affect reproductive development in rats and to be associated to a slightly increased risk of cryptorchidism in Danish children (Kristensen et al., 2011). However, the causal relationship remains open.

On behalf of ESPE and American Pediatric Endocrine Society we wrote a Call for Action Statement The Exposure of Fetuses and Children to Endocrine Disrupting Chemicals, that was published in Journal of Clinical Endocrinology and Metabolism (Skakkebaek et al., 2011).

I attach here a list of publications from 2010 (many of which certainly stem from previous research) and 2011.

Once again, I want to extend my gratitude to ESPE for this great opportunity.

Sincerely,

Jorma Toppari
Departments of Physiology and Paediatrics
University of Turku
I have bolded the articles that were co-authored with the colleagues from the Danish host lab.


