

3rd International Conference on

Endocrinology

November 02-04, 2015 Atlanta, USA

Preimplantation exposure to bisphenol A may lead to embryo implantation failure through PI3K/PDK1/SGK1 pathway in humans

Mu Yuan and **Fan Jin** Zhejiang University School of Medicine, China

Background: Endocrine disrupting chemicals (EDCs) are chemicals that have the capacity to interfere with normal endocrine systems. One kind of EDCs, bisphenol A (BPA), is mass-produced and widespread. It has estrogenic properties and have been detected in human fluids and tissues.

Methods: Two hundred and seventeen infertile patients with fallopian tube obstruction under 41 years old who underwent *in vitro* fertilization-embryo transfer (IVF-ET) between September 2013 and January 2014 were involved in this study. The concentration of BPA in the urine of these patients was tested. The correlation between the concentration of BPA and IVF outcome was examined. Mice model and Ishikawa cell line were used to assess the effect and study the mechanism of preimplantation exposure of BPA on embryo implantation.

Results: There is a significant difference of BPA urine concentration between the high and the low implantation rate group of patients (P<0.01). In mice model, preimplantation exposure to BPA on environmental relevant level can lead to less number of implantation sites compared to the control group (P<0.05). RNA-seq shows the transcription level of many genes in PI3K/PDK1/SGK1 pathway were significantly different in the uterus of the dam on embryo day 4 between the high exposure group and control group. Expression of SGK1 on the protein level was significantly lower both in the uterus of the high exposure group in mice model and Ishikawa cell model (P<0.05).

Conclusions: Pre-implantation exposure to BPA may lead to implantation failure in humans. PI3K/PDK1/SGK1 pathway may play an important part in the effect of BPA on embryo implantation.

Biography

Mu Yuan is currently pursuing PhD in Zhejiang University in China. He has published 2 papers in 2015 (one of which has just been accepted).

244587717@qq.com

Notes: