Vladislav S Baranov, J Mol Genet Med 2015, 9:3
http://dx.doi.org/10.4172/1747-0862.S1.006

OMICS International
conferenceseries.com

International Conference and Exhibition on

Molecular Medicine and Diagnostics

August 24-26, 2015 London, UK

Epigentic landscape of endometriosis

Vladislav S Baranov
Russian Academy of Sciences, Russia

Endometriosis (E) is a common multigenetic disorder affecting almost 10% of women of reproductive age. Complex molecular, genetic, immunological analysis and endocrinology tests were applied in the studies of 257 women with E and in 117 women in the control. Participation of the genes responsible for steroid hormone activity, their receptors, inflammation, proliferation, cell migration, apoptosis, intercellular adhesion, angiogenesis as well as the genes regulating their activity have been suggested as plausible candidates. A handful of very interesting new candidate genes involved in oncogenesis, metaplasia of endometrium cells and embryonic development of female reproductive system were identified by GWAS technology and also by conventional genetic testing. Genetic polymorphisms and differential expression of the candidate genes regulated by different epigenetic factors were thoroughly studied and substantiated complex epigenetic landscape of E. According to recent hypothesis E could be induced by different combinations of relevant genetic and epigenetic factors with subsequent canalization of pathological process, which soon becomes irreversible and inevitably proceeds to clinical manifestations following "direct or reverse epigenetic landscapes" routes. Two hypothetical stages of E include: the origin of primary incipient endometrioitic cells (PIEC) resulting as transition products of endometrial epithelia to mesenchymal cells (metaplasia), as well as from vestigial embryonic or dormant stem cells (St 1); progression of PIEC into E. lesions augmented by numerous genetic and epigenetic factors (St.2). Identification PIEC cells and complex molecular genetic analysis of their origin and progression may be fruitful in diagnostic biomarker search and may substantiate further advancement of prediction, prevention and treatment of E.

Biography

Born in 1940, graduated from the State Medical Institute in Lvov (Ukraina), took postgraduate course and thereafter received a PhD degree in Embryology in 1976. From 1966 till 1987 he was working at the Institute of Experimental Medicine RAMN (Saint-Petersburg) as a scientific collaborator at the Department of embryology and from 1980 in the Laboratory of biochemical genetics. From 1987 till the present time is the Chief of laboratory for prenatal diagnosis of inherited and inborn diseases at the Ott's Institute of Obstetrics, Gynecology & Reproduction. Mainly interested in genetic and cytogenetic aspects of early human development, gene testing of inherited predisposition to common diseases, personalized predictive medicine, gene therapy. During the period of 1995-2009 he was awarded by A.A.Bayev Prize, Honorary Prizes from Russian Academy of Medical Sciences, I.P.Pavlov Prize, S.N.Davidenkov Prize. V.S.Baranov – is a chief City Expert in Medical Genetics, Chief of Federal Center for prenatal diagnosis of cystic fibrosis, Chief of Federal Medical Genetic Center, WHO expert on human genetics, Member of HUGO and Human Variome Project Consortium. Member of editorial boards of scientific journals "Medical Genetics", "Prenatal Diagnosis", "Ecological Genetics", "Balkan J.Medical Genetics"

The author of 29 books (1 in English "Cytogenetics of Mammalian Embryonic Development" Oxford University Press 1987,356pp) and over 400 scientific papers.

baranov@vb2475.spb.edu

Notes: