conferenceseries.com

International Conference on
Autoimmunity
October 13-14, 2016 Manchester, UK

Cytokines and current research

Ramune Sepetiene
Lithuanian University of Health Sciences, Lithuania

Investigation of cytokines, mainly transforming growth factor beta-1 (TGF-β1) and osteopontin (OPN) for use as biological markers are focused on early diagnostics within dilatative pathology of ascending thoracic aorta. Transforming growth factor β1 (TGF- β1) is a cytokine that participates in a broad range of cellular regulatory processes and is associated with various diseases including aortic aneurysm. An increased TGF-β1 level is associated with Marfan syndrome (MFS) caused by fibrillin-1 (FBN1) mutations and subsequent defects in signaling system. A purpose of the investigation was to test hypothesis does an association between FBN1 SNPs (rs2118181, rs1059177) and TGF- β1 level in human blood plasma exist among sporadic cases of dilatative pathology of ascending aorta. On other hand, mutations of TGBRII are associated with OPN which binds to several integrin receptors including α4β1, α9β1, α9β4 expressed by leucocytes. These receptors have been well-established to function in cell adhesion, migration and survival in these cells. Recent researches have focused on the role of OPN in mediating such responses. Stimulation of OPN expression also occurs upon exposure of cells to pro-inflammatory cytokines, classical mediators of acute inflammation (e.g., tumor necrosis factor α (TNFα), infterleukin-1β (IL-1β)), angiotensin II, transforming growth factor β (TGFβ) and parathyroid hormone (PTH), although a detailed mechanistic understanding of these regulatory pathways are not yet known. Hyperglycemia and hypoxia are known to increase OPN expression. High concentration of TGFβ may stimulate OPN gene's promoter and change OPN level. Use of classic ELISA tests with constructive pre-analytic phase works for the search of common mechanisms of pathophysiology of cytokines, involved in many various reactions. This may help to understand the process of expanding and/or rupture of aortic wall.

Biography

Ramune Sepetiene is currently a PhD student at Lithuanian University of Health Sciences, Lithuanian. She has completed her MD with Medical Laboratory Specialization in 1999 at Lithuanian University of Health Sciences, Medicine Academy. She has clinical work experience within immunology, hematology and genetics of more than 15 years. She is a Junior Researcher in Laboratory of Molecular Cardiology, Institute of Cardiology, LUHS and part time Laboratory MD in patients' clinic.

sepetiene@yahoo.co.uk

Notes: