

Global Summit on

# Heart Diseases and Therapeutics

October 20-21, 2016 Chicago, USA



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### Personalized medicine in cardiovascular medicine using advanced stem cell technologies and linear array vascular ultra sound

**Endothelial Function Measurement:** It is considered the most accurate non-invasive procedure to detect and follow vascular reactivity. Endothelial function measurement can detect early atherosclerosis and pre-clinical coronary vascular disease, cerebral and peripheral vascular disease. Dozens of studies have shown that the worse the endothelial dysfunction the worse the clinical prognosis of patients with cardiovascular risk factors.

**Endothelial Progenitor Stem Cells:** These are grown in culture from the peripheral blood are presented as endothelial progenitor cells-colony forming units (EPC-CFU). There is an inverse correlation between EPC-CFUs number and cardiovascular risk factors. The higher the Framingham score the worse the ability to build colonies of endothelial progenitor stem cells, and the worse the prognosis.

**Combining the Endothelial Function Assay with the EPC-CFU Assay:** A positive correlation was found between endothelial function and the ability to create EPC-CFUs. Combining these 2 modalities (the clinical assay and the stem cells assay) will enable to have a better sensitivity and specificity for diagnosing coronary artery disease in a pre-clinical stage. Our combined approach does not replace the traditional risk factors' assessment; still we suggest a more individualized, patient oriented approach that will add to the present risk assessment. We suggest a "personalized medicine approach" in cardiovascular medicine using advanced ultra sound and stem cells' techniques.

### Biography

Arnon Blum is a Professor of Medicine in Bar-Ilan University and has completed his Medical studies from the Israeli Institute of Technology (Technion), Internal Medicine (Hadassah, Jerusalem), Cardiology (Beilinson, Tel Aviv), and Vascular Medicine and Stem Cell Transplantation from the University of Miami, USA. He is the Director of the Department of Medicine at Baruch Padeh Poriya Hospital and Head of the Department of Medicine in the Faculty of Medicine in Bar Ilan University. He has published more than 175 papers in peer reviewed journals and is serving as an Editorial Board Member of 20 medical journals in Medicine and Cardiology, and is the Editor-in-Chief of 3 journals.

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