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Ten powerful trends that will transform CV practice in the future

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While cardiovascular (CV) disease remains the number one cause of global mortality, there has been a stunning 30% reduction in CV morbidity and mortality in the US since 2000, along with a parallel 40% reduction in congenital heart disease mortality. CV diagnostic and therapeutic science and clinical progress continues at a breathtaking pace, even though governmental regulatory costs and barriers present challenges to ongoing innovation. At the same time, rising costs of CV care represent a growing financial burden for patients, businesses, and government. As a result, transformation of CV care delivery systems and payment models, made possible in large part due to progress in information technology and health data analytics, is moving forward as fast or faster than CV science is progressing. Along with genomics and genetics, CV prevention science and strategy is also rapidly evolving. Combined, these trends will significantly affect cardiovascular health and health care in the next decade. Dominant trends shaping the future of heart disease prevention, early detection, and medical management will be described and discussed in this presentation.

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Device-based home treatment of heart pathologies via telemedicine

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Muscular Counterpulsation (MCP) is a novel noninvasive technology of bio-mechanical assisted circulation, which is realized via skeletal muscles electrostimulation during diastole (www.musculartcounterpulsation.jimdo.com). Numbers of animal and patient studies were performed in university hospitals of Switzerland, Germany, Russia, Ukraine and Georgia confirmed safety and efficacy of the method. MCP can offload the left ventricle by reducing after-load for about 20% with notable improvement of coronary perfusion. MCP as all other external counterpulsation methods has third, most prominent effect - pre-load increase which could be a problem for CHF patients. MCP versus EECP can avoid undesirablevenous flow acceleration via skeletal-musclepump power control and create conditions for revers re-modeling pathologic geometry of the insufficient heart.

The latest generation of the portable, battery-powered MCP device via Bluetooth could be couple with laptop, tablet or even mobile phone for distance ECG and stimulation control. Patient only has to fixe electrodes on the body following the instruction and switch on the system. This telemedicine systemgives unique opportunity to observe and managevia internet patients' home treatment process.

Even though MCP has similar clinical effects as EECP or IABP does, it should not be consider as there competitor. MCP should be position for extend and spread counterpulsation's indications as device-based treatment and even prophylaxes of heart pathologies. It opens new niche in MDs portfolio and constitutes a completely new market segment.

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