DAY 1

Keynote Forum

2nd Edition of International Congress on

Pediatrics

March 26-27, 2018 | Edinburgh, Scotland

EuroSciCon

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Dietmar Schranz, J Pediatr Care, Volume 4
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HEART FAILURE IN YOUNG CHILDREN: REGENERATION INSTEAD TRANSPLANTATION

Dietmar Schranz

Johann-Wolfgang Goethe University, Germany

Heart failure (HF) in children is a serious public health concern. HF has numerous etiologies, but unspecific symptoms. There is interplay among neurohumoral, and molecular abnormalities. Major advances in chronic heart failure (cHF) therapy have been achieved in adult patients, while research regarding the mechanisms and therapy of chronic heart failure in children has lagged behind. However in any case, the current chronic therapy of systolic HF focused on loop-diuretics, fluid restriction and digoxin as well as the definition of end-stage HF is inacceptable; not at least in context of the potentials of regeneration reciprocal to the patient's age. Therefore, therapy has to extend to selective ß1-blocker, tissue ACE-I and mineralocorticoid blockers, and loop-diuretics avoided as ever possible. The efficacy of endogenous neurohumoral inhibition can easily monitored, even by parents only looking at surrogate parameters as heart and breath rate as well as systolic and diastolic blood pressure. Echocardiographic control of cardiac function has to include synchrony and parameters of ventriculo-ventricular interaction (VVI). Optimizing the left ventricular preload is advocated as an important part of a regenerative strategy. Interventional aspects of such a regenerative favored HF therapy include creation of a restrictive interatrial communication, placing a reversible pulmonary artery banding and stem cells replacement.

Biography

Dietmar Schranz, MD was a Resident and Fellow in Pediatrics, Neonatology, Pediatric Intensive Care & Cardiology with follow-up position as Assistant Professor (PhD) in Pediatric Cardiology and Intensive Care at the Gutenberg University Clinic Mainz, Germany. During 1996-2017 he was a University Professor (C4), Justus-Liebig University Giessen, Germany, Chair of the Department of Pediatric Cardiology, Pediatric Heart Center, JLU-Giessen (Germany). Since 2017 he is a Consultant in University Clinic Frankfurt & Wuxi, China. He has publications of more than 200 peer-reviewed papers in reputed journals and more than 100 invited talks world-wide. He has membership in multiple German & European societies and he is a Reviewer of Lancet, Circulation and many other high-ranked Journals.

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CARDIOVASCULAR ASPECTS OF THE PRE-PARTICIPATION SPORTS PHYSICAL

Michael J Cooper

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The sudden cardiac death (SCD) of a young athlete is a rare but catastrophic event that sends shock waves through a community, and when this tragedy involves a high profile athlete being viewed by tens of thousands of spectators and millions more by television, the shock waves spread around the world. Though only about one out of 200,000 young athletes have an underlying heart defect that can lead to SCD, the far-reaching impact of the event predictably generates a great deal of discussion among the general public and within the medical community. Pre-participation screening offers the important possibility of primary prevention of SCD since the outcome of lethal cardiovascular disorders is usually irreversible. We will explore the cardiovascular aspects of pre-participation screening beginning with a discussion of the incidence and nature of the cardiovascular anomalies that cause SCD in the young. These include hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, aortic dissection due to Marfan syndrome, congenital and acquired coronary artery anomalies, and electrophysiological anomalies including Wolff-Parkinson White syndrome (WPW), Long QT, Brugada, and CPVT (catecholaminergic polymorphic ventricular tachycardia). We will focus on how these potential causes of SCD might best be detected. Recognizing variations in epidemiology and etiology of SCD in North America, Europe and Asia, we will discuss the varying application of screening modalities, which include the use of the questionnaire, physical examination, electrocardiography (EKG) and exercise EKG. In this context, we will review the scope and nature of community-wide screening in USA as it compares with other countries, and we will revisit the controversy regarding the exclusion of EKGs from the AHA guidelines. The audience will be able to use what they learn by reviewing the incidence of various causes of sudden cardiac death (SCD) in young athletes and we will heighten awareness of these entities. Empowered with the knowledge regarding the etiologies that may lead to SCD in young athletes, the audience will be vigilant about these entities and know when to refer for specialty evaluation and care. Knowing the power of the EKG in expanding detection for many etiologies that may lead to SCD in young athletes, the audience will appreciate and obtain this information. This will help the audience in their job by empowering them with the knowledge regarding the etiologies that may lead to SCD in young athletes and the audience will be vigilant about these entities and know when to restrict athletes pending specialty evaluation. The other benefits include a discussion of etiologies that may lead to SCD in young athletes will have immediate impact on the clinical practice of pediatricians in the context of the pre-participation sports physical. This will heighten the awareness of clinically important details enhancing the detection of potentially lethal cardiovascular anomalies. This discussion will also provide the substrate for population research and registries to monitor the impact of enhanced detection.

Biography

Michael J Cooper graduated from Tel-Aviv University Medical School in 1977. He is specialized in Pediatrics followed by a Pediatric Cardiology Fellowship at University of California San Francisco (UCSF) Medical Center, USA. He remained at UCSF after fellowship and became full Professor of Pediatric Cardiology in 1988. Additionally, he conducts cardiovascular screening for young athletes at Northern California high schools. He also volunteers biannually in Palestine for children who lack access to care. In his free time, he publishes novels of historical fiction.

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USING AUTOLOGOUS BONE MARROW DERIVED MONONUCLEAR STEM CELLS FOR STIMULATING TISSUE REGENERATION AND FUNCTIONAL ACTIVITY

Aris Lacis

University Children Hospital, Latvia

Statement of the problem: Dilated cardiomyopathy is a serious problem in pediatric cardiology praxis. Despite the relatively low incidence of 0.57 to 2.6 per 100000 children the mortality rate is high. One third of patients die within the first year after diagnosis. Up to 40% of these patients are defined as idiopathic dilated cardiomyopathy (IDCM), characterized by ventricular dilatation and systolic dysfunction. Researchers have reposted that conventional medical therapy does not improve the outcome of the disease; however recent clinical studies have suggested bone marrow derived autologous mononuclear cells as a promising therapy option. Pulmonary arterial hypertension (PAH) is characterized by increased pulmonary vascular resistance resulting in extensive heart structural changes leading to right heart failure and death. PAH is characterized by obstruction of small pulmonary arteries leading progressive increase in vascular resistance. Locally implanted stem cells may trigger the neovascularization process in the lung potentially leading to a decrease of pulmonary artery pressure.

Methodology: For treatment of IDCM we prefer to use transcutan intramyocardial administration of autologous bone marrow derived mononuclear stem cells, combined with ultrasound monitoring. In patients with PAH intrapulmonary transplantation of stem cells was performed using: intravasal injection of the stem cells by catheterization pulmonary arteries and directly in the lung tissues by using standard thoracentesis technique, performed under chest radiological control.

Conclusions: Ten years' experience applied wisely, the stem cell therapy appears to be a safe and effective way for stabilization of critically ill patients with both severe pulmonary arterial hypertension and idiopathic dilated cardiomyopathy. This method provides additional opportunities for symptomatic treatment and serves as a bridge for potential heart and lung transplantation

Recent Publications

1. Lācis A and Ērglis A (2011) Intramyocardial administration of autologous bone marrow mononuclear cells in a critically ill child with dilated cardiomyopathy. Cardiology in the Young 21(1):110–112.
2. Lācis A, Lubaua I, Ērglis A, et al. (2013) Neo-revascularization as the potential treatment for patient suffering from pulmonary hypertension (Myth or reality?). J. Clinical Medicine Research (CMR), 2(3):32–36.
3. Lācis A, Lubaua I, Ērglis A, et al. (2013) Management of idiopathic dilated cardiomyopathy with intramyocardial cell transplantation in children: A retrospective study of 7 patients. J. Clinical Medicine Research, 2(4):129–133.
4. Lācis A, Lubaua I, Ērglis A, et al. (2013) Safeguards and pitfalls in technique used for stem cell delivery in children suffering from idiopathic dilated cardiomyopathy. Journal of US-China Med. Science, 10(3–4):71–75.
5. Lācis A, Lubaua I, Ērglis A, et al. (2014) Stem cell therapy as one of temporary measures for management of heart failure and pulmonary hypertension in children. American Journal of Experimental and Clinical Research 1(3):38–46.

Biography

Aris Lacis, MD, PhD is a Cardiac Surgeon and Professor who graduated from Riga Medical Institute in 1961. He was a General and Thoracic Surgeon in P Stradina University Hospital in Riga (1964–1969); Thoracic and Cardiac Surgeon in the Latvian Centre for Cardiovascular Surgery (1969–1994). From 1994 to 2012 he was the Head of Pediatric Cardiology and Cardiac Surgery Clinic in University Children's Hospital, Riga; since 2012 he is a Consulting Professor of this Clinic. He is the President of Latvian Association for Pediatric Cardiologists and Author of 395 scientific publications, 3 monographs and 13 patents. He is an Investigator in more than 10 clinical trials including cardiosurgical procedures performed under deep hypothermia, hybrid procedures etc. In May 2009 he became first in the world to use transcutan intramyocardial delivery autologous bone marrow derived progenitor stem cells for 3 months old patient suffering from idiopathic dilated cardiomyopathy.

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DAY 2

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Rose Mary S Stocks, J Pediatr Care, Volume 4
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INITIAL MANAGEMENT OF INFANTS WITH A CLEFT LIP AND PALATE

Rose Mary S Stocks

University of Tennessee Health Science Center, USA

Biography

Rose Mary S Stocks is the Residency Program Director for Otolaryngology, Head & Neck Surgery Department at UTHSC. She is a fellowship trained Pediatric Otolaryngologist with a Doctorate in Pharmacy and a long bench research history. She has conducted numerous NIH-funded research endeavors with an emphasis on ototoxicity and its prevention in the administration of chemotherapy in the guinea pig model. She has participated in, and published her experience in extra-uterine, prenatal surgical repair of defects of the head and neck (the EXIT procedure). She has served as Research Mentor to numerous residents over the years and greatly increased the amount of scholarly activity within the department. She has taught courses at a national level for the American Academy of Otolaryngology, Head and Neck Surgery on Down's Syndrome for the Otolaryngologist and Management of the Difficult Pediatric Airway. She teaches first year medical students about examination of the ear, nose, and throat and is a tireless surgical educator in the training program. She is a Member of the LeBonheur Multidisciplinary Cleft Lip and Palate Team and devotes her expertise to the care of these patients and their families.

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Mariana Stuparu Cretu, J Pediatr Care, Volume 4
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INULIN, A PREBIOTIC PLANT METABOLITE FOR CHILDREN – AN ENRICHED FORMULA

Mariana Stuparu Cretu

University Dunarea de Jos of Galati, Romania

Clinical studies have demonstrated that inulin-type fructans added to infant food formula have significant effects on intestinal flora because of their prebiotic potential and influence the innate and adaptive immune response favorably. Therefore, people who have consumed inulin have a steady state of well-being. Our main goal was to extract, isolate and characterize the inulin-type fructans from Cichorium intybus and Taraxacum officinale roots in order to evaluate the prebiotic activity of this polysaccharide. The sources of inulin, Cichorium intybus (chicory) and Taraxacum officinale (dandelion) roots, was collected from Romanian south-east spontaneous flora. The inulin was extracted from plant material by fractionation with different solvents. The content of saccharides from the organic extracts was quantified using spectrophotometric methods and HPTLC technique and commercial inulin, as standard solution. The presence of other different chemical compounds from extracts was highlighted using attenuated total reflectance Fourier transform infrared spectroscopy (ATR-FTIR). The prebiotic activity of inulin from extracts was performed in the presence of Lactobacillus plantarum strains and a commercial product. The highest content of inulin-type fructans was found in Cichorium intybus roots compared to the Taraxacum officinale roots extract. Both plant extracts showed similar functional groups like the inulin standard solution (C-C: 1018÷1044 cm-1 and C-OH: 1106.06÷1114 cm-1). Thus, the chemical structure of the compounds found in the plant extracts is almost similar to that of the standard solution of inulin. Lactobacillus plantarum strains showed a significant growth dynamics in the presence of both extracts compared to the sample represented by a commercial product. In conclusion, Taraxacum officinale roots are characterized by an essential prebiotic potential due, like of Cichorium intybus, to their significant inulin content and can be used as natural additives resources to improve the textural and organoleptic properties of various food daily products for children

Biography

Stuparu Cretu Mariana is a Pediatrician and Generalist, also specialist in general and pediatric ultrasound, family planning and health management. She has completed her PhD in Pediatrics at 2013 from Carol Davila University of Medicine and Pharmacy, Bucharest, Romania. Now, she is the Medical Director of Obstetrics Ginecologie Hospital BunaVestire of Galati and Associate Professor at Faculty of Medicine and Pharmacy, Dunarea de Jos University of Galati. She is concerned about different areas of health, preferential nutritional health of the population, metabolic syndrome, adolescent health, pediatric gynecology, health education. She has presented several research papers at different conferences and congresses.

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