Keynote Forum
September 20, 2017

Pediatric Healthcare & Pediatric Infections 2017

10TH AMERICAN PEDIATRICS HEALTHCARE & PEDIATRIC INFECTIOUS DISEASES CONGRESS

September 20-22, 2017 | Park Inn by Radisson Toronto Airport West
Toronto, Canada

Jichuan Wang

Children's National Health System, USA

Application of latent class analysis and latent transition analysis to pediatric symptom studies

Studying symptoms in pediatric health care is important. The terminology of "symptom cluster" in literature has different meanings. Symptom cluster may refer to a group of symptoms that are associated with simultaneous occurrence. Analysis of this kind of symptom cluster are variable-centered analytical approach. The present study focuses on "person-centered" symptom clusters that represent distinctive sub-populations/groups in the target population. Latent class analysis (LCA) is one of the person-centered analytical approaches that can be applied to identify potential latent classes/groups (subpopulations) that are a priori unknown in the population. Patients are similar within class, but differ in cross classes with respect to a set of symptom measures. When symptom measures are continuous (e.g., scale scores of depression), LCA becomes latent profile analysis (LPA). Applications of LCA and LPA to longitudinal data lead to latent transition analysis (LTA), in which latent classes or profiles can be identified simultaneously for each specific time point, measurement invariance over time can be tested, and transitions of symptom cluster/profile status over time can be estimated, and factors that affect the transitions can be examined. This study applied LPA and LTA to identify distinctive latent profiles in children undergoing chemotherapy based on four PROMIS symptoms measures (depression, anxiety, pain, and fatigue). Our results show that two latent profiles ('Less Severe Symptoms, 'Severe Symptoms) were identified throughout a chemotherapy (T^1: start of the chemotherapy cycle; T^2: mid-way through the cycle; and T^3: after blood cell count recovery). The prevalence of severe symptom profile remained relatively unchanged from T^1 to T^2 but significantly declined at T^3. A baseline single-item legacy fatigue score significantly predicted the child's profile membership and its transitions over time.

Speaker Biography

Jichuan Wang has completed his PhD from Cornell University and Post-doctoral studies from the Population Studies Center, University of Michigan. He is a Senior Biostatistician at Children's Research Institute, CNHS. He has published three statistical books and authored/coauthored more than 100 peer-reviewed journal articles. He has been serving as an Editorial Board Member for five academic journals.

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Andreas Fette

University of Pecs, Hungary

Living western style pediatric surgery in Libya: First lessons learnt

In the past, only two governmental institutions could provide pediatric surgery services in Benghazi. Thus, soon after revolution, stakeholders decided to invest more in their community health care and funded a cooperation with German experts. Here, their main goal was to bring German standards and expertise to Benghazi, especially to their newly built Libyan German Hospital. In this communication, we would like to share our experience out of this project: Any medical decision making within Benghazi families is strictly based on their merits and beliefs in “inschallah” and clans. It is further characterized by a sparse body knowledge, the general mistrust in “all doctors”, and the attitude to complain about “anything-anytime”. Traditionally, each institution focuses on their “core” expertise, the visceral or newborn surgery, and not on urology or trauma cases like in Germany. Starting a tailored educational and training programme for all grades of staff, introducing new surgical techniques and living a “being the best example yourself” leadership generated a big interest into the “other” system. Resulting fast in i) higher standards of care and staff motivation ii) master exams re-held after revolution for the first time iii) first laparoscopic, newborn and sub-speciality surgeries done in the private sector iv) carers and families more convinced and satisfied v) surgeries performed doubled in numbers. In conclusion: “German” expertise introduced in a culture-sensitive way, allowed for the first positive changes in Benghazi`s pediatric surgery services. However, for a full sustainable implementation there is still a long way to go.

Speaker Biography

Fette Andreas is a Consultant Pediatric Surgeon. He has worked all over the globe in different charity and WHO accredited developing countries projects. He has a broad clinicial expertise in the entire field of pediatric surgery and holds a Master’s degree in Disaster and Emergency Medicine.

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Yigal Dror

Hospital for Sick Children, Canada

Genetic basis of inherited bone marrow failure syndromes

Inherited bone marrow failure syndromes (IBMFSs) are rare disorders with underproductive bone marrow, varying degrees of low blood counts, physical malformations and risk of myelodysplastic syndromes, leukemia and solid tumors. Over 25 different syndromes have been characterized. Phenotypic overlap among the IBMFSs frequently limits the ability to establish a diagnosis based solely on clinical features. Over 80 IBMFS genes have been identified that functions in fundamental biochemical pathways such as DNA repair, ribosome biogenesis, telomere maintenance and cell survival. The large number of syndromes and associated genes and phenotypic overlap often renders genetic testing prolonged and costly. Correct diagnosis, treatment, and cancer surveillance often depend on identifying the mutated gene. In this presentation, data about the phenotypic complexity of the IBMFSs and leukemia risk will be described. The results of applying new genomic methods to facilitate diagnosis will be discussed. Lastly, genes that were recently discovered as associated with IBMFS will also be discussed.

Speaker Biography

Dr. Yigal Dror is the Head of the Haematology Section and Director of the Marrow Failure and Myelodysplasia Program, senior scientist at the Genetics and Genome Biology Program at The Hospital for Sick Children, Toronto, and a member of the Institute of Medical Sciences at the University of Toronto. Dr. Dror graduated from the Hadassah Medical School of the Hebrew University in Jerusalem, and completed pediatric residency in Kaplan Hospital, Rehovot, Israel. He completed clinical fellowship in pediatric hematology/oncology and a post-doctoral research fellowship in the field of hematopoiesis and marrow failure syndromes/ myelodysplasia at SickKids hospital, Toronto. In 2000 Dr. Dror assumed his current position as a clinician scientist at SickKids.His main clinical interests are in the area of bone marrow failure and myelodysplastic syndrome. His research focuses on characterization of stem cells and blood cells in these conditions, genetic etiologies and clinical outcome. He heads the Canadian Inherited Marrow Failure Registry. Dr. Dror's lab showed that Shwachman-Diamond syndrome (SDS) marrow progenitors are reduced, overexpress Fas and undergo apoptosis through the FAS pathway. SBDS-deficiency results in abnormal accumulation of functional FAS at the plasma membrane level. The slow cell growth of SDS cells is associated with increased levels of reactive oxygen species, and can be reversed by antioxidants. His lab also studied the landscape of mutations and affected genes in inherited bone marrow failure syndromes using samples and data from the Canadian Inherited Marrow Failure Regsitry. The lab identified PARN as a new IBMFS gene and described defects in ribosomes and telomeres that unravel previously unknown functions of PARN, and suggest a new disease mechanism in which PARN-deficiency disrupts the polyadenylated state of H/ACA box RNA molecules that in turn influences ribosome profile and telomere length. The lab also identified DNAJC21 as the second gene associated with SDS. His lab showed that IBMFS are associated with high risk (37%) of clones/MDS/AML in childhood, and found that SDS marrows are characterized by stromal dysfunction, increased angiogenesis and abnormal leukemia-gene expression in marrow progenitor cells

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Karim Sedky

Rowan University, USA

Sleep disordered breathing and psychiatric disorders in the pediatric population: Meta-analytic review

Sleep disordered breathing (SDB) includes primarily; snoring, obstructive sleep apnea (OSA) and obstructive hypoventilation syndrome. This disorder has been linked to increased prevalence of weight gain, diabetes mellitus, strokes and even heart disease in the adult population. Attention deficit hyperactivity disorder (ADHD) is a common disorder in children and/or adolescent population manisfesting in hyperactivity, inattention and impulsivity. Additionally, depressive disorders are also not uncommon in this population and are usually present in the form of sadness or irritability, sleep and appetite problems, suicidal tendencies, concentration issues or lack of enjoyment in activities. The aim of this discussion is to explore, if there is a relationship between SDB and the prevalence of attention deficit hyperactivity and depressive symptoms in the pediatric population. Since adenotonsillectomy (AT) is the main treatment for OSA, a meta-analysis of the effect of AT on the ADHD and depressive symptoms are reviewed.

Speaker Biography

Karim Sedky has completed his Medical School at Alexandria University, Egypt. He completed his Master's degree in Anatomical Sciences and Neurobiology from the University of Louisiville, Louisville, KY. He gained his training in both General Psychiatry as well as Child and Adoelscent Psychiatry after completing his training at Drexel University, Philadelphia, PA. He is a Professor of Psychiatry and is the Medical Student Education Director at CMSRU. He has published more than 30 papers in reputable journals and has been serving as Chief Editor for the Journal of Sleep and Sleep Disorder Journal Research and on the Editorial Board for few other journals. His main interest is focused on the effects of sleep and sleep disorders and its relation to psychiatry disorders in children and adolescent population.

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Heleen Staal

Maastricht University, The Netherlands

The use of whole-body MR imaging in children with herditary multiple osteochondromas

Background: Patients with hereditary multiple osteochondromas (HMO) undergo frequent radiographs to evaluate the growth of their osteochondromas. The conventional radiographic images clearly show the growth of the bony part of the osteochondromas and the growth direction of the long bones. The radiographs do not show the cartilage cap on top of the osteochondroma nor do they show the surrounding soft tissue or the cartilage of the nearby epiphysis. Alongside these disadvantages, taking frequent radiographs carry the potential risk of inducing malignant degeneration through ionizing radiation. We investigated the use of whole-body MR imaging as a screening tool to follow patients with HMO.

Findings: Two HMO affected children underwent two whole-body MR imaging scans in one-year time to identify the osteochondromas and to evaluate their growth. The MR images were compared to regular follow-up radiographs of these patients. All radiographically detectable osteochondromas were visible on the whole-body MR images. At least one osteochondroma was clearly seen on the whole-body MR images before detection was possible on the radiographs. The proton density sequence with fat suppression proved to be the best sequence to visualize osteochondromas.

Conclusion: Whole-body MR imaging is an effective follow-up tool for patients with hereditary multiple osteochondromas

Speaker Biography

H M Staal received a Master's degree in Medicine, at Catholic University of Nijmegen in 1996, with a minor in Tropical Medicine and Applied Mathematics. Between 2001 and 2007, she did her post-academic education to become an Orthopedic Surgeon. Since 2007, she is working as an Orthopedic Surgeon at MUMC Maastricht, specialized in Child Orthopedics and Hand Surgery. She has a special interest in medical education and holds an academic educational qualification. In 2012, she became Program Director of trainee orthopedic surgeons. In 2016, she recieved a PhD for her research into the growth of osteochondromas in HMO.

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