

JOINT EVENT



12th International Conferences on
Childhood Obesity and Nutrition
&
3rd World Congress on
Diabetes and Obesity
March 18-19, 2019 | Rome, Italy

Keynote Forum Day 1

Childhood Obesity & Diabetes Conference 2019

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**Nilly Shams***Alexandria University School of Medicine, Egypt***Metabolic syndrome in preschoolers**

Prevalence of metabolic syndrome in children and adolescents is increasing, in parallel with the increasing trends in obesity rates. Varying definitions of this syndrome have hindered the development of a consensus for the diagnostic criteria in the pediatric population. So how to diagnose it in children? How it affects their health and future? How to prevent it? All these points will be discussed through my presentation.

Biography

Nilly Shams has completed her PhD from High Institute of Public Health Alexandria University and Nutrition and Public Health Masters Alexandria University School of Medicine. She is the Vice President of Clinical Nutrition Department Elite Hospital. She is the President of the Egyptian Nutrition and Health coaching Association. She had her Health coaching Certificate from Institute of Integrative Nutrition, USA.

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**Erkan Yilmaz**

Ankara University, Turkey

The role of glutamine transport and metabolism in the insulin resistance and endoplasmic reticulum stress

Glutamine metabolism in insulin resistance mechanisms are not well understood yet. In some cases glutamine can be used as fuel, levels of glutamine in tissues and circulation can be effective in the regulation of cellular responsiveness to insulin and cellular metabolism. We aimed to reveal a possible relationship between glutamine metabolism and endoplasmic reticulum stress in insulin resistance. Fat and liver tissues of Ob/Ob mice, increased endoplasmic reticulum stress, increased insulin resistance and decreased glutamine transporter (ASCT2) and glutamine signaling (mTOR, LAT1, GCN2) observed. Glutamine is an important metabolite in the regulation of energy requirements and cellular hemostasis in the cell. And in insulin resistance in the process of adaptation to the new use of glutamine as a fuel, one of significant digits is likely to be.

Biography

Erkan Yilmaz has completed his PhD at the Gazi University and Postdoctoral studies from Harvard School of Public Health. He is Associate Professor at Ankara University, Biotechnology Institute. He has published 30 papers in reputed journals and more than 6000 citations.

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Shota Janjgava

National Institute of Endocrinology, Tbilisi, Georgia

Influence of testosterone replacement therapy on metabolic disorders and autonomic diabetic neuropathy in patient with type 2 diabetes mellitus and Androgen deficiency

Introduction: Over the past few decades, obesity and Diabetes mellitus has become a global health challenge. Multiple epidemiological studies have shown that low testosterone levels are associated with and predict the future development of T2D and the metabolic syndrome.

Aim of study: The aim of study was to show the influence of testosterone replacement therapy on BMI, HbA1c level, Diabetic neuropathy, and CV-risk factors - with patient diabetes mellitus and Androgen deficiency.

Materials and Methods: 125 male patient with diabetes mellitus was screened, 85 subjects with 41-65 years and BMI 27,0 – 48,0 kg/m² were randomized In placebo-controlled study, who underwent a routine physical examination and choose free testosterone examination. Also for assessment of autonomic diabetic neuropathy was used “Vegetotester” — digital instrument for vegetative nervous system study. According to the laboratory and clinical condition we divided patients into two groups. 1) First group treatment group 2) Second group placebo group. In the first group we used diet, physical activity (Lifestyle intervention implies reduced calorie diet (The reduction of daily calorie intake in 800-1200 calorie, it was selected individually), patient’s antidiabetic therapy and testosterone replacement therapy (TRT), (testosterone undecanoate 250 mgr/ml intra- muscular 3 months 1 time). In second group we used diet, physical activity (Lifestyle intervention implies reduced calorie diet (The reduction of daily calorie intake in 800-1200 calorie, it was selected individually), patient’s antidiabetic therapy and placebo.

Results: After six months of treatment we repeated the diagnostic assessments: We had some positive results cholesterol, triglyceride and LDL levels decreased, and HDL increased both of group but better results was in first group which was clinically significant. Free testosterone level increased in all groups but the best results was in I group which was clinically significant where was used of testosterone undecanoate. HbA1c decreased in both group but in I group we had the best result. BMI decreased in both groups but more reduction was in I group. leptin level after treatment was approximately same in both groups, but compared best results was achieved in I group, also blood pressure were reduced in both group, where we found alike results. Also in first group were positive results about autonomic diabetic neuropathy.

Discussion: Autonomic diabetic neuropathy, Serum testosterone, glycosylated hemoglobin, high-density lipoprotein cholesterol, triglyceride concentrations, and the BMI, Hypertension improved in both treatment groups after 26 weeks of treatment. We have shown that testosterone replacement therapy improves insulin resistance and glycemic control in hypogonadal men with diabetes.

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Conclusion: This study demonstrated that it is possible to break into this vicious circle by raising testosterone levels in diabetic men and low testosterone level. Maybe low level of testosterone has some role in pathogenesis of autonomic diabetic neuropathy. Re-instituting physiological levels of testosterone in hypoandrogenic men as our small study shown, have an important role in reducing the prevalence of diabetic complication.

Biography

Shota Janjgava graduated in 2009 from Ivane Javakhishvili Tbilisi State University with honors and received MD degree. He continued his postgraduate education at Kiev Medical Academy of Professor Shupika, which he graduated ahead of schedule in 2010, and at the same institute took the courses of retreat with the specialization of Andrology. Since 2012, He is employed as endocrinologist-andrologist at the National Institute of Endocrinology. In 2015, he completed his PhD. Since 2015 he is Head of Andrology Department, and also from 2017 he is the head of Clinical Trials Department at the National Institute of Endocrinology, vice-president of Georgian Youth Association for the Study of Diabetes and Metabolic Disorders, associated Professor at Tbilisi Humanitarian University and guest professor at Tbilisi State University post-diploma educational medical program.

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Angelo Michele Carella

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Circulating micro-RNAs in obese and diabetic patients: What meaning?

MicroRNAs (miRNAs) are short noncoding RNA sequences synthesized in the cell nucleus, through a complex multi-step biosynthetic process starting from RNA polymerase II; it is estimated that the human genome contains more than 2500 mature miRNAs. miRNAs regulate a wide range of biological processes as cell differentiation, proliferation and development, cell-to-cell communication, cell metabolism and apoptosis. miRNAs seem also regulate insulin signaling, immune-mediated inflammation, adipokine expression, adipogenesis, lipid metabolism, and food intake. There is evidence that miRNAs may have a role in molecular mechanisms linked to cellular pathways of some diseases, as viral infections, cancer, diabetes, obesity and cardiovascular disease. The recent discovery of circulating miRNAs easily detectable and measurable in plasma and other body fluids, led to the hypothesis of their potential role as disease indicators. Altered circulating levels of several miRNAs were found to be linked to type 1 and type 2 diabetes, both at onset and in advanced disease. At least 12 circulating miRNAs were found consistently dysregulated in type 1 diabetes mellitus and, more or less, 40 circulating miRNAs in type 2 diabetic patients. miR-126 seems to be miRNA most linked to pathways and development of type 1 and type 2 diabetes and their complications.

Dysregulation of several miRNAs involves different aspects of diabetic disease: glycemic control, residual beta cell function, insulin secretion and sensitivity, micro- and macro-vascular complications, particularly endothelial dysfunction, renal disease and retinopathy. Altered expression and dysregulation of circulating miRNAs are confirmed to correlate to obesity and its related diseases; a broad panel of circulating miRNAs is involved as miR-17-5p, -132, -140-5p, -142-3p, -222, -532-5p, -125b, -130b, -221, -15a, -423-5p, -520c-3p. Although different levels of several circulating miRNA were found significantly associated with weight gain, most of the data concern comorbidities and complications of obesity as insulin resistance, pre-diabetes, diabetes (miR-15b, -138, -376a and -503 particularly), lipid metabolism alterations, adipogenesis dysregulation (miR-143 and -221) and inflammatory processes. Moreover, several evidences were obtained in obese children (miR-122 and -199a) and some data in newborns and maternal pre-gestational and gestational obesity (miR-122, -324-3p, -375, -652 and -625); the expression of some miRNAs differs in infants born to obese women compared with infants born to lean women then changes in miRNA expression might participate in epigenetic fetal programming of metabolic disorders in children born to obese women.

In obese children, miR-486, -146b and -15b might be useful in predicting future risk of type 2 diabetes. Circulating early-mid-pregnancy miRNAs are associated with gestational diabetes, particularly in women who are overweight pre-pregnancy. At last, significant down-regulation of several and different miRNAs was observed in overweight/obese subjects after low or high glycemic index diet and after low-fat diet; moreover, circulating miRNAs might be potential novel biomarkers for the benefits of bariatric surgery and the effects of mild exercise, in predicting improvements in

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cardiometabolic risk. There are scientific evidences suggesting a potential role of circulating miRNAs detection as useful source of diagnostic, prognostic and therapeutic biomarkers in obese and diabetic patients. Major limits: number, duration and sample size of clinical studies are small; source of circulating miRNAs, extraction procedures, quantities of blood samples and methods of analysis, as well as promiscuous nature of miRNAs targets, difficulties of obtaining tissue specificity and, in particular, high costs required for miRNAs detection may contribute to the uncertainty observed in the literature, highlighting the need for reproducible and well standardized methods. Moreover, low-cost and wide availability assays to detect circulating miRNAs with high sensitivity/specificity should be developed. Large, long-term and randomized controlled clinical studies are need to determine whether circulating miRNAs could play a role as biomarkers for obesity and diabetes in daily clinical practice.

Biography

Angelo Michele Carella, after graduating in Medicine, obtained specialization in Internal Medicine, attended postgraduate courses on Diabetes and Obesity and obtained university Master in Healthcare Management. Currently, he operates at the Internal Medicine Department of "T. Masselli - Mascalucia" Hospital in San Severo (Foggia), Italy. He teaches at Medical Faculty of Foggia University, degree course in Health Professions. He took part as researcher/co-researcher in some clinical studies, published in international journals, as DAVID Study, ESPORT Study, ATA-AF Study and DIAMOND Study. He is Editorial Board member and Reviewer of a lot of scientific journals and Author of several scientific publications (h-index 5, according to Google Scholar citation search; ORCID iD: 0000-0003-4825-9620). He took part, as speaker, in scientific congresses and meetings and he is member of scientific societies as "Italian Association of Diabetes specialists" (affiliated with IDF), "Italian Association of Dietetics and clinical nutrition", "Italian Federation of Hospital Internists Associations"; moreover he is member of "Diabetes and Cardiovascular Disease Study Group", official study group of EASD. He is registered in Google Scholar and Research Gate. Research areas and field of expertise: Internal medicine, Diabetology, obesity and metabolism, cardiovascular diseases, oncology.

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Caroline Golden

Imperial College London, UK

Nudging obesity in the right direction

The global risk of obesity for children has risen from 0.7- 5.6% in girls and from 0.9-7.8% in boys from 1975-2016 (NCD Risk Factor Collaboration (NCD-RisC) 2017). We are proposing a novel method of tackling obesity in young adults using Nudgeomics – a combination of DNA-based dietary guidelines and small nudges in food product recommendations via an app. The app provides both educational information on personalized dietary guidelines, and the nutritional information of the food product, with the advice on whether the food product is good for you based on your DNA or whether another product would be better. The technique is based on Nudge Theory. A meta-analysis of Nudge interventions showed that it improved dietary behaviour in children in 83% of studies. Moreover, dietary nudges were found to be more effective in children in elementary school and adolescence rather than pre-school. Nudgeomics is not only an effective tool to tackle obesity in adolescents; it also harnesses both the agency of the child and the authority of the parent. NudgeShare enables parents to shop for their whole family by integrating the DNA-based guidelines of all family members. The parent, in their position of authority over the diet of their children, is provided with reassurance that they are buying foods that are nutritious. This is complimented by the personalized profile that adolescents have in their own app. This will provide educational information on what is good for them, bad for them and why. Moreover, it will help to explain the reasoning behind their parent's food choices, for example why they chose the green product over the red. It also provides the gaming opportunity for children to try to get more greens than reds each week, which in turn could make them a more active participant in grocery shopping. This easy and fun entry to food education could have a profound effect on informing shopping habits from a young age that may be carried into adulthood.

Recent Publications

1. Chen C H et al. (2018) PERSON-Personalized expert recommendation system for optimized nutrition. IEEE Transactions on Biomedical Circuits and Systems 12(1):151–160.
2. Cork S C et al. (2018) Extracellular pH monitoring for use in closed-loop vagus nerve stimulation. Journal of Neural Engineering 15(1):016001.
3. Mirza K B et al. (2018) Influence of Cholecystokinin-8 on Compound nerve action potentials from ventral gastric vagus in rats. International Journal of Neural Systems 7(27):1850006.
4. Mirza K B et al. (2017) Live demo: platform for closed loop neuromodulation based on dual mode biosignals. IEEE Biomedical Circuits and Systems Conference (BioCAS) IEEE 1–1.
5. Toumazou C et al. (2013) Simultaneous DNA amplification and detection using a pH-sensing semiconductor system. Nature Methods 10(7):641–646.

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Biography

Caroline Golden is working with Professor Chris Toumazou and Dr. Maria Karvela who pioneered the term Nudgeomics at the KMPG Innovation and Information Protection in Digital Health Conference, on 23rd September 2016. The Nudgeomics team is currently conducting a clinical trial to determine the effectiveness of the Nudgeomics technique on reducing the risk of type 2 diabetes in pre-diabetic individuals.

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