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World Obesity-2018



21st World Obesity Conference

Oct 25-26, 2018 Budapest, Hungary

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Hospital Paroissien, Argentina

Initial experience with intragastric balloon Lexbal® in the treatment of patients with mild to moderate obesity (Type I-II)

Introduction: Descriptive observational study in which the sample is made up of the 14 patients treated with balloon Lexbal®.

Objectives: The objectives of the study were to evaluate the effectiveness and response to balloon (Lexbal®) in the treatment of mild to moderate obesity.

Methods: We conducted an observational and retrospective study at Hospital Paroissien. We have compiled the results of 14 follow intragastric balloons (Balloon Lexbal®) in obese patients with mild to moderate type I-II (BMI between 28 and 34.9 kg/m²) placed during 2012 and 2017 and weight losses have been achieved over 70% of excess weight. Furthermore, patient satisfaction has been observed in our sample.

Measurements: Descriptive observational study in which the sample is made up of 14 patients treated with balloon Lexbal® in our midst.

Results: Over 80% of patient satisfaction was observed with 70% decrease in weight above the average (over 12 kilos). A better response was found in those presenting adherence to nutritional treatment and no differences were observed in the volume of filling the balloon.

Conclusions: Treatment with intragastric balloon, along with a nutritional monitoring allows us to re-educate the patient and change their eating habits. Just for gradual diet, and to adapt each phase as tolerated by the patient, helps us to improve dietary behavior and facilitates greater weight loss. The intragastric balloon is a safe, well tolerated, with few adverse effects and relatively simple in the hands accustomed to endoscopic practice. We believe it can be considered an effective adjunctive therapy in selected cases of mild/moderate obesity (type I-II).

Biography

F D Robledo has completed his graduation from the University of Buenos Aires in 1982. He is the Fellow of Gastroenterology Service in Gastroenterology & Endoscopy Hospital Fernandez in 1983/1987, Physician of Gastroenterology and Endoscopy in Hospital Paroissien Hospital (1987/2017) and Professor of Internal Medicine in UBA in 1988/2000. He has completed Master's degree in Health Economics from ISALUD University in 2005. Currently, he is the Head of Hospital Paroissien

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Effect of melanocortin obesity on insulin signaling in female and male mice

In the human population, melanocortin obesity is more common than other forms of genetic types of obesity. In mice mutation “Yellow” in the Agouti locus (Ay) decreases melanocortin receptor activity, induces hyperphagia, adult onset obesity and insulin resistance. It remains unknown if there are sex differences in molecular mechanisms of insulin resistance at melanocortin obesity. We investigated effects of melanocortin obesity on adipose tissue, glucose tolerance, insulin sensitivity, insulin and glucose blood levels, and mRNA level of insulin signaling genes (INSR, IRS1/2, PIK3CD) in liver, muscle and adipose tissue (WAT) in females and males at 30 weeks of age. We have shown that both Ay-females and Ay-males have impaired whole body insulin sensitivity: females had glucose intolerance and fed hyperinsulinemia, and males had impaired insulin sensitivity and fasted hyperinsulinemia. However, the molecular mechanisms of insulin resistance were different in Ay-females and Ay-males. We found sex specific effects of melanocortin obesity on insulin signaling in liver and adipose tissue, whereas obesity did not affect insulin signaling in muscles. In females, obesity was associated with decreased hepatic INSR and IRS2 mRNA levels, and increased WAT INSR and PIK3CD mRNA levels, and in males, obesity was associated with increased hepatic PIK3CD mRNA level and decreased WAT INSR mRNA level. The data suggest that sexual differences in mechanisms of insulin resistance should be considered for correction of metabolic syndrome at melanocortin obesity.

This study was supported by the Russian Science Foundation, Grant No 17-15-01036.

Biography

Iakovleva T V has graduated from Novosibirsk University. At the University, she studied the properties and function of estradiol secreted by the adrenal gland. She then studied effects of color mutations (Agouti and non-Agouti) on the function of pituitary-adrenal system in females and males of *Arvicola terrestris*; effects of colour mutation Agouti yellow on the function of pituitary-adrenal system in mice C57Bl and; effects of melanocortin system and estradiol on obesity development and insulin sensitivity in females of C57Bl mice. She studied mechanisms underlying the development of insulin resistance and expression of insulin signal transduction genes in females and males of C57Bl mice during the development of melanocortin and diet-induced obesity and presented work is the part of her study on sex characteristics of the FGF21 regulatory effects.

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Influence of high maternal leptin levels during pregnancy on metabolic characteristics of obesity-prone and obesity-resistant female offspring in mice

Metabolic response to obesogenic diet (OD) varies widely even in mice with the same genetic background, some mice develop obesity (obesity-prone, OP), and others do not (obesity-resistant, OR). Prenatal developmental programming may impact this variability. In mice, elevated maternal leptin during pregnancy is associated with enhanced resistance to obesity in offspring but metabolic pathways affected by maternal leptin are unknown. We examined the metabolic features associated with resistance to diet-induced obesity (DIO) and the effect of hyperleptinemia during pregnancy on these characteristics in OP and OR female offspring. Females born to control C57Bl and C57Bl-Ay (hyperleptinemia during pregnancy) mothers received standard chow after weaning for 12 weeks and then they consumed OD. After eight weeks they were divided into OP or OR according to their body weight. On standard chow, OP and OR mice did not differ in food intake, but OR mice gained less weight than OP mice. Obesity development in OP mice was associated with hyperglycemia and glucose and insulin intolerance. Glucose level and insulin sensitivity were normal in OR mice and insulin receptor (InsR) mRNA expression in the liver and adipose tissue was increased compared to control (standard diet) and OP mice and it can be a mechanism providing resistance to DIO. Maternal hyperleptinemia affected only growth rate after weaning on standard diet in OR females (accelerated) and did not affect other characteristics. Perhaps, resistance to DIO may be associated with the effect of maternal leptin on the growth hormone axis in OR mice. Supported by RFBR (№17-04-01357A).

Biography

Gonchar A has a Bachelor's degree in Biology and is currently pursuing her Master's degree from the Faculty of Natural Sciences of the Novosibirsk State University. She took part in University and Institute of Cytology and Genetics student conferences. Her area of interest includes: diet-induced obesity, type 2 diabetes, resistance to diet-induced obesity, genetic and epigenetic mechanisms in obesity.

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Sex-dependent differences of mineralocorticoid system activity in melanocortin obesity in Ay mice

Agouti yellow mice (Ay) with melanocortin obesity is a convenient model for studying of the molecular mechanisms of non-dietary type of obesity. It has been shown recently that mineralocorticoid system played an important and sex dependent role in obesity development. Complications associated with it often led to the chronic heart and renal failure. However, sex dependent characteristics of the mineralocorticoid system activity at this type of obesity have not been adequately studied. The aim of this work was to investigate the expression of mineralocorticoid receptor (MR) and aldosterone level in female and male Ay mice. Using the real-time PCR method, the mRNA level of the MR in the hypothalamus, heart left ventricle and adipocytes in adult female and male Ay mice at the age of 30-32 weeks was investigated. The level of aldosterone in the blood was studied using the enzyme immunoassay method (Mouse Aldosterone (ALD) ELISA kit). Twice, as high level of MR mRNA has been detected in female adipocytes and in heart left ventricle in female Ay mice compared to male ($p \leq 0.05$). No significant differences in MR mRNA level in the pituitary glands have been identified. Sex dependent difference in the blood aldosterone levels (224.6 ± 25.1 and 102.8 ± 16.5 pg/ml in the female and male Ay, $p \geq 0.05$) has been shown. These data indicate that melanocortin obesity in female Ay is associated with aldosterone and mineralocorticoid system activation.

The study was supported by the RFBR (17-04-00912) and Budget Project № 0324-2018-0016

Biography

N S Logvinenko is a Senior Scientist at the Institute of Cytology and Genetics, Russian Academy of Sciences, Novosibirsk. Her main fields of scientific interests are: (1) Molecular mechanisms of aldosterone regulation of kidney function during postnatal ontogenesis; (2) The effects of kinase phosphorylation of the alpha-subunit of kidney Na⁺-K⁺-ATPase on the biological activity of the enzyme; (3) Nongenomic aldosterone effects on the kidney ENaC activity and (4) Investigation of the mineralocorticoid receptors and aldosterone nongenomic effects in Ay mice with melanocortin obesity.

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Using dietary assessment instruments for research in obese patients with cardiovascular diseases: A pilot study

Purpose: The purpose of this study was to use as many nutrition tools as possible to calculate more dietary parameters from food questionnaire of patients diagnosed with cardiovascular diseases and obesity. The dietary assessment instruments (DAI) for research (DAIR) are tools that calculate dietary parameters such as daily nutrient recommendations.

Material & Methods: The study group included patients diagnosed with cardiovascular diseases (CVD) admitted to the cardiovascular rehabilitation clinic in Tirgu Mures and the subjects filled a questionnaire with the food consumption for the previous year, 2017.

Results: The daily nutrient recommendations for a 55 years, 168 cm, 96 kg female patient calculated with DAI is 2308 kcal/day, 75 mg vitamin C, 1.5 mg vitamin B6, 8 mg zinc, 0.9 mg copper. The dietary parameters for this patient calculated with DAIR are healthy eating index (HEI)=60, alternate healthy eating index (AHEI)=40, dietary approaches to stop hypertension (DASH) score=10, dietary inflammatory index (DII)=+1, dietary anti-inflammation index (D-AII)=-1, index inflammatory score of diet (ISD)=30 and oxygen radical absorbance capacity (ORAC)=5000. The dietary parameters calculated with FFQs is 1637 kcal/day, 230 mg vitamin C, 0.5 mg vitamin B6, 5 mg zinc, 0.6 mg copper, HEI=53, AHEI=47, DASH=7, DII=+1.86, A-AII=-1.86, ISD=22 and ORAC=5000. The average ORAC value for 37 patients with cardiovascular diseases was 3641 ORAC for women and 2601 ORAC for men. The difference between daily nutrient recommendations and daily nutrient intake of the patient represents a probability of inadequate nutrients of 30% due to the lack of daily nutrition of nuts, seeds and vegetable oils that have therapeutic properties of CVD patients.

Conclusions: Dietary assessment instruments for research could be a useful tool for nutritional counseling. In future web-based nutrition analysis software services should become popular among obese patients with cardiovascular disease.

Biography

Fazakas Zita has completed her graduation from University of Medicine and Pharmacy of Tirgu-Mures in 2011. She is currently working at Department of Biochemistry and Environment Chemistry, Faculty of Pharmacy University of Medicine and Pharmacy of Tirgu- Mures, Romania. Her area of expertise is around Dietetics and Nutrition. She is full time Teaching Member of Biochemistry Discipline and main Biochemistry Lecturer for 1st year students of specializations: (Romanian, Hungarian and English series), Dental Medicine, Medical Nursing, Nutrition and Diabetics and Physiokinetotherapy.

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Analysis of five amino acids and diet intervention for balancing protein metabolism among professional athletes

Background: Professional sports have a major impact onto athletes' protein metabolism. An essential role for sports performance is played by balanced diets that help meet energy requirements of athletes. The amino acid panel is important for exploration of protein metabolism.

Objective: The objective of this study was to explore protein metabolism profile among professional athletes through the measurement of amino acids levels of isoleucine, leucine, valine, arginine, and tryptophan.

Materials & Methods: Data was collected using quantum bioresonance equipment for measurement of amino acid levels, and a food frequency questionnaire was adapted for exploration of the nutritional status of athletes. Ninety nine (99) people took part in the study, 24 athletes from University of Medicine and Pharmacy Targu Mures aged 18-28 and 75 athletes from Transylvania University of Brasov between 19-46 years old. None of them were using protein supplements.

Results: None of the subjects monitored has deficiencies in amino acid levels measured. In our sample, 36 athletes (36.36%) had a slightly high level of isoleucine, 46 (46.46%) a slightly high level of leucine, 34 (34.34%) a lower level of tryptophan, 30 athletes (30.30%) presented a moderately high level of tryptophan and 2 (2.02%) a high level of tryptophan, also 45 (45.45%) a mild surplus of valine and 63 (63.64%) a mild surplus of arginine. Based on our questionnaire data, 64.64% of athletes were identified as having a higher animal protein intake than recommended, especially young male athletes.

Conclusion: The variations in athletes' protein metabolism, indicated by the discrepancies in the amino acids panel, point out the need to implement a well-organized and balanced diet for professional athletes that would help improve their performance and their weight during and after sport life.

Biography

Elena Mardale is a Bucharest based certified nutrition consultant and fitness diet nutrition specialist, certified by Asociatia Internationala Masterclass in 2014 and a student of the University of Medicine and Pharmacy in Targu Mures where she is currently completing the degree in Nutrition and Dietetics (graduation expected in 2019). She also holds a certification from Horeca School as a pastry chef. In the past two years she has been collaborating with UTA ARAD-Club Fotbal as nutritionist of the football team while running her individual freelance nutrition consultant activity. Her current research focuses on evaluation of the health status of professional athletes, with a particular interest to the role of antioxidants in their diets and overall health.

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An insight of Europeans' knowledge about dietary fibers in relationship with obesity

Objectives: The objective of the study is to estimate the relationship between socio-demographic characteristics of Romanian population, and their knowledge towards dietary fibre intake, the information sources preferred and perception of obesity related health risks.

Methods: We used a convenient cross-sectional survey, and the data were collected using a validated questionnaire, disseminated online. Six different Romanian counties with 57 cities were selected in 2016, with 670 participants, and we used the SPSS program 22.0 for statistical purpose. The same questionnaire was applied in other seven European countries, as part of an international project design.

Results: The knowledge about dietary fibres intake was low in Romanian sample, also was the ingestion of foods rich in fibre (fruits, vegetables and cereals). Compared to men, women agree significantly more frequent that fibres in appropriate amounts can prevent or treat diseases ($U=44607$, $z=-4.66$, $p<0.001$, $r=0.18$) and separately related to specific diseases, that fibres can prevent and/or treat cardio-vascular diseases, cholesterol, bowel cancer, breast cancer, constipation, and diabetes, but with no differences regarding the deficiency of vitamins and minerals ($p=0.774$) or obesity ($p=0.399$). Regarding the differences observed by countries, the highest fruit consumption was found for Portugal (11.7 portions per week), while the lowest was for Hungary (7.4) and Latvia (7.1). Turkey, that had the highest interest for food labelling (4.0 points), contrarily to Macedonia (3.0) with the lowest value, and Hungary with 3.6 points. The in-depth analysis of factors that are able to influence European's knowledge and attitudes towards food fibres, defined the social profile of the respondents with interest on dietary fibre intake, which is: young females, with at least high school education, that considers internet and television like main sources of information regarding fibres.

Conclusions: Based on our results, we can elaborate efficient community and school intervention programs, more focused on modern information technology and communication skills, fit to the consumer's profile in order to promote a healthy nutrition behavior and proper knowledge.

Biography

Monica Tarcea is the Professor in the Department of community Nutrition and Food Safety in the University of Medicine and Pharmacy Tirgu Mures and also Hygiene Discipline (between 1994-2012). She organized 20 Post-graduate courses for Physicians, Nurses, Chemists and Biologists, regarding nutrition, food safety, environment hazards, water and air quality, reproductive health and life style management. She is Member of Romanian Public Health Association and EUPHA, Romanian Society of Behavioral Medicine and ISBM, Healthy Nutrition Foundation, Romanian Nutrition and Dietetics Association (ARoND), Romanian Hygiene Society, Romanian Society for School Physicians, also in Editorial Committee of Hygiene and Public Health Journal and Journal of Obesity and Eating Disorders.

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