6th International Conference and Exhibition on

NUTRITION

September 14-16, 2016 San Antonio, USA

Posters

Nutrition 2016

Julie Walker et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Performance comparison of the Assure® Platinum and EvenCare® G2® blood glucose monitoring systems against the ISO 15197:2013 accuracy criteria

Julie Walker, Patricia Gill, Danielle Maher and **John Gleisner**
ARKRAY USA Inc., USA

Background: Blood Glucose Monitoring Systems (BGMS) are used in the management of diabetes. ISO 15197:2013 is an accepted standard for measuring the accuracy of BGMS which requires 95% of results within ±15 mg/dL of the reference analyzer at glucose concentrations <100 mg/dL and within ±15% of reference analyzer at glucose concentrations ≥100 mg/dL. Furthermore, 99% of results need to be within the A and B zones of the Consensus Error Grid.

Objective: This study compared the performance of the Assure® Platinum and EvenCare® G2®.

Methods: Two lots of test strips for each BGMS were evaluated side-by-side at ARKRAY Factory with the same study participants. Blood samples were drawn from the fingertip of confirmed diabetics (n=120) by laboratory professionals. Reference values were obtained using the YSI Model 2300 Analyzer. Data was evaluated against the accuracy boundaries of the ISO 15197:2013 Standard and Consensus Error Grid.

Results: Assure® Platinum demonstrated 100.0% of <100 mg/dL samples (8/8) were within ±15 mg/dL and 97.3% of ≥100 mg/dL samples (109/112) fell within ±15%. Overall bias was -2.8% and correlation coefficient (r)=0.98. For EvenCare® G2®, 87.5% of <100 mg/dL samples (7/8) gave values ±15 mg/dL and 92.0% of ≥100 mg/dL samples (103/112) fell within ±15%. Overall bias was 2.2% and correlation coefficient (r)=0.98. All data for the Assure® Platinum and EvenCare® G2® were within the A and B zones of the Consensus Error Grid.

Conclusion: Assure® Platinum results fell within ISO 15197:2013 accuracy boundaries while EvenCare® G2® results did not meet the accuracy boundaries of the ISO 15197:2013 Standard.

Biography

Julie Walker completed her Bachelor of Science in Nursing from the University of North Dakota, Grand Forks and is a member of Sigma Theta Tau International Honor Society of Nursing. She has more than 15 years of experience in the medical device and pharmaceutical industries as an educator and a marketer. During this time she has been responsible for the submission of more than 50 publications. Currently, she is the Manager of Market Development for ARKRAY USA—a leader in the diabetes care market. Julie is also on the executive council at the Minnesota based American Diabetes Association, and is co-captain for the ARKRAY USA Step Out and Walk team.

walkerj@arkrayusa.com

Notes:

Jeongseon Kim et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Genetic variation in PPARGC1A may affect the role of diet-induced inflammation in colorectal carcinogenesis

Jeongseon Kim[1], **Young Ae Cho**[1], **Jeonghee Lee**[1], **Jae-Hwan Oh**[1], **Hee Jin Chang**[1], **Dae Kyung Sohn**[1] and **Aesun Shin**[1,2]
[1]National Cancer Center, South Korea
[2]Seoul National University, South Korea

As chronic inflammation plays an important role in colorectal carcinogenesis, inflammation related gene-diet interactions may affect colorectal cancer risk. Therefore, we investigated whether genetic susceptibility alters the effect of diet-induced inflammation on the risk of colorectal cancer. This study included 701 colorectal cancer patients and 1402 controls. We selected six polymorphisms in four genes (IL1B, TNF, PPARG and PPARGC1A) and calculated diet-induced inflammation using the dietary inflammatory index (DII). Multiple logistic regression models were applied to estimate odds ratios (ORs) and corresponding 95% confidence intervals (CIs) of the main effect of genetic variants and the DII as well as their interactions. Subgroup analyses were performed by anatomic site and other risk factors. Among the investigated polymorphisms, heterozygous carriers of rs3774921 in the PPARGC1A gene were at higher risk of colorectal cancer (OR=1.30; 95% CI, 1.05-1.62 for TC vs. TT). When the data were stratified by rs3774921 genetic variants, the role of a proinflammatory diet in colorectal carcinogenesis was more prominent among homozygous variant allele carriers (OR=4.35; 95% CI, 1.89-10.03 for high vs. low DII) (P for interaction=0.022). When stratified by anatomic site, this association was much stronger for rectal cancer patients (OR=7.57; 95% CI, 2.30-24.93 for high vs. low DII) (P for interaction=0.013). Additionally, this interaction was significant among those older than 55 years old, not exercising regularly and drinking alcoholic beverages. Conversely, the other investigated polymorphisms did not show any association or interaction with diet-induced inflammation in relation to colorectal cancer risk. This study suggests that a pro-inflammatory diet has a differential effect on colorectal cancer risk based on PPARGC1A genetic variation with differential associations according to anatomic location and other risk factors. Although the findings support the molecular link between metabolism and inflammation, future studies are required to confirm our results.

Biography

Jeongseon Kim is a Professor in the Department of Cancer Control and Policy in Graduate School of Cancer Science and Policy. She has completed her PhD in Nutritional Epidemiology from New York University, USA. She has been primarily involved in the investigation of dietary factors, using epidemiologic approaches, in the cause and prevention of chronic diseases especially cancer and its important conditions.

jskim@ncc.re.kr

Notes:

Hideki Nakayama et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

A single consumption of curry improved postprandial endothelial function in healthy men

Hideki Nakayama[1], Nobuaki Tsuge[1], Hiroshi Sawada[1], Noriya Masamura[1], Shohei Yamada[1], Shigeki Satomi[1] and **Yukihito Higashi[2]**
[1]House Foods Corporation, Japan
[2]Hiroshima University, Japan

Background & Aim: Curry, one of the most popular foods in Japan, contains spices that are rich in potentially antioxidative compounds, such as curcumin and eugenol. Oxidative stress is thought to impair endothelial function associated with atherosclerosis, a leading cause of cardiovascular events. The aim of this study was to determine whether a single consumption of curry meal would improve endothelial function in healthy men.

Methods: Fourteen healthy male subjects (BMI 23.7±2.7 kg/m^2; age 45±9 years) were given a single serving of curry meal or spice-free control meal (180 g of curry or control and 200 g of cooked rice; approximately 500 kcal in total) in a randomized, controlled crossover design. Before and 1 hour after the consumption, fasting and postprandial flow-mediated vasodilation (FMD) responses and other parameters were measured.

Results: The consumption of the control meal decreased FMD from 5.8±2.4% to 5.1±2.3% (P=0.039). On the other hand, the consumption of the curry meal increased FMD from 5.2±2.5% to 6.6±2.0% (P=0.001) and the postprandial FMD after the curry meal was higher than that after the control meal (P=0.002). Presence of spices in the curry did not alter significantly the systemic and forearm hemodynamics or any biochemical parameters including oxidative stress markers measured.

Conclusions: These findings suggest that the consumption of curry ameliorates postprandial endothelial function in healthy men and may be beneficial for improving cardiovascular health.

Biography

Hideki Nakayama has completed his MSc from Kyoto University in 1995. He is the Chief Researcher of House Foods Corporation, Tokyo, Japan and has engaged in research on health function of spices.

hideki-nakayama@housefoods.co.jp

Notes:

Hassan Abd El Raouf El-Hendy et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Effect of bee glue (propolis) on hepatitis rats

Hassan Abd El Raouf El-Hendy[1], **Muna Ali Saif Al-Yamani**[2] and **Mahasin Abdulaziz Ahmad Sayrafi**[2]
[1]Alexandria University, Egypt
[2]Umm Al Qura University, KSA

This study was conducted to evaluate the benefits of the Saudi honey gum (propolis) by means of reduction of its toxic substances that target the liver and affect its performance. The components of propolis were identified. The research sample included 42 adult male rat of healthy weight ranged from 255-287 grams. The samples were divided into six equal groups. The first group was fed the standard diet (negative control group) while 35 rat were injected with carbon tetrachloride under the skin (1.5 ml/ kg) in order to infect them with acute hepatitis. After 24 hours, the group of infected rat were divided and the second group (positive control group) was also fed a standard meal, while the other groups infected which were the third, fourth, fifth and sixth were fed on a diet with access to a standard concentration of Saudi honey gum of 200, 300, 400 and 500 mg per kg, respectively, through the mouth for 4 consecutive weeks. The results showed that propolis contains 41 compounds and out of these 17 compounds have been identified. Volatile oil was in proportion of 20.37%, aliphatic acids in 16.87%, esters in 15.48% and alcohols in 13.98%. The results showed a significant improved in biochemical parameters in hepatitis rats which were treated with propolis. Results also showed that propolis increased activity of antioxidant enzymes in the liver of hepatitis rats treated with propolis. The study concluded that propolis plays an effective role in protecting the liver from damage and inflammation that can be caused by the components of anti-oxidation and inflammation.

Biography

Hassan Abd El Raouf El-Hendy is a Professor of Nutrition and Food Science at Home Economics Department in the Faculty of Agriculture at Alexandria University, Egypt.

elhendy99@yahoo.com

Notes:

Seon-Joo Park et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Healthy dietary pattern and prevalence of depressive symptoms in Korean middle-aged and elderly women

Seon-Joo Park and **Hae-Jeung Lee**
Gachon University, South Korea

The association with depression and dietary patterns has been reported in a few studies. This study was conducted to investigate the association between dietary patterns and prevalence of depressive symptoms. Depressive symptoms were assessed using the Beck depression inventory (BDI) and those who have BDI score ≥16 were defined depression. Food intake over the past year was estimated using a validated semi-quantitative food frequency questionnaire. Multiple logistic regressions used to assess the association of dietary patterns with depression. In analysis, 1625 women (aged 43-73 years) were included. We identified two major dietary patterns by using factor analysis; the healthy and the unhealthy dietary patterns. The healthy dietary pattern characterized by a high intake of vegetables, fishes, mushroom, bean and bean paste, seaweeds, shellfish, fruits and low intake of white rice, carbonated drink, coffee. Compared with participants in the lowest quartiles, those in the highest quartiles had significantly lower odds ratio (OR=0.64, 95% confidence interval 0.41-0.97, p=0.0372) for depression after adjusted for age, body mass index, exercise, smoking, drinking, marital status, total energy intake and chronic diseases status in healthy dietary pattern. This study suggests that adherence to a diet plenty in vegetables, mushroom, bean and bean paste and fruits reduce the risk of depression symptoms in Korean middle-aged and elderly women.

Biography

Seon-Joo Park has received her PhD degree in 2004 from Seoul National University in Korea and she has worked as a Senior Researcher for Division of Epidemiology & Health Index, The Korea Centers for Diseases Control and Prevention from 2004 to 2014. She is an Assistant Professor at Department of Food and Nutrition in Gachon University and Vice-Chief of Institute for Aging and Clinical Nutrition Research. Her research focuses on nutritional epidemiology, nutrigenomics and cohort study.

chris0825@hanmail.net

Notes:

Hae-Jeung Lee et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

The prevalence of eating disturbances at elite private middle and high schools in Korea

Hae-Jeung Lee[1], **Yeonjae Lee**[2] and **Junghyun Park**[2]
[1]Gachon University, South Korea
[2]Hankuk Academy of Foreign Studies, South Korea

Disturbed eating behavior (DEB) might be easily proceeded to pathological eating disorder such as anorexia nervosa and bulimia in adolescents. It has been emphasized to manage DEB during adolescence. The DEBs of students with high academic achievement and high social economic status were scarcely evaluated in Korea. Thus, this study was performed to assess the prevalence of eating disturbances at elite private middle and high schools in Korea. Data were collected under the teacher's control at elite private middle and high schools (EPS) in Gyeonggi-do, Korea. The total number of participants in middle and high schools was 247 (girls: 64.8%). Only one class of high school was included. Subjects who marked skewed answers such as "double responding" were excluded (n=12). EAT-26 Korean version was used for diagnosis of DEB. DEB was defined as scores of 20 or more on the EAT-26. SPSS version 18 was used for statistical analyses. Further statistical analyses were not able to perform due to the lack of sample distribution on DEB. As the results, in terms of sleep time per day, they slept 5.9 hours on average (boys: 6.5 hours, girls: 5.7 hours) and the total percentage of responding "often" and "very often" in the item "skipping meals in order to save time for studying" was 50.9% (boys: 41.8%, girls: 55.5%). The mean score of EAT-26 was 6.83 in total, 6.16 in boys and 7.09 in girls. The number of DEB was too low to perform further statistical analyses compared with Korean nationwide adolescents' DEB (EPS boys: 1.3%, girls: 3.0% vs., nationwide boys: 10.5%, girls: 14.8%). Further study regarding eating behaviors for elite private school adolescents is required.

Biography

Hae-Jeung Lee is a Professor at Gachon University in the Republic of Korea. She was graduated and received her PhD from Seoul National University. She has worked as a Research Fellow at Harvard Medical School and Harvard Public Health School. She has carried out projects using various national nutrition surveys and health promotion programs and policies upon request from various Korean Governmental Agencies including the Ministry of Health and Welfare (MOHW), Korea Centers for Disease Control and Prevention (KCDC) and the Ministry of Food and Drug Safety (MFDS). She has conducted numerous randomized clinical trials as well.

skysea1010@gmail.com

Notes:

Hsin-Yuan Chen et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

The effect of isoliquiritigenin-induced apoptosis and autophagy of human endometrial cancer cell line and underline mechanism

Hsin-Yuan Chen[1], **Tsui-Chin Huang**[1,2], **Chi-Hao Wu**[1], **Tzong-Ming Shieh**[3] and **Shih-Min Hsia**[1]
[1]Taipei Medical University, Taiwan
[2]Academia Sinica, Taiwan
[3]China Medical University, Taiwan

Endometrial cancer occurs in women after menopause, is the fourth most common cancer in women in the United States. In Taiwan, due to the widespread use of hormone replacement therapy, the incidence of gynecologic cancer climbs to first place. In recent years, western countries begin the widespread use of herbal therapies, Isoliquiritigenin (ISL), one of the active components in licorice plant flavonoids, in past study, ISL had antioxidant, anti-inflammatory and tumor suppression effect. In this study, we investigated the antitumor effect of ISL on human endometrial cancer *in vitro* and *in vivo*. We used human normal endometrial cell lines, T HESCs and human endometrial cancer cell lines, Ishikawa, HEC-1A and RL95-2 as targets. To examined that the effect of ISL on the cell proliferation, cell cycle regulation, and apoptosis or autophagy related protein expression. In addition, we conducted *in vivo* experiment to confirm the inhibitory effects of ISL on cancer cell. As the current results show, ISL significantly inhibited the viability of cancer cell in a dose dependent and time dependent manner but has little toxicity on normal cell. And also, flow cytometry analysis indicated that ISL induced sub G1 phase arrest. Mechanistically, ISL enhanced the expression of PARP/LC3B II protein associated with apoptosis/autophagy. Furthermore, ISL suppressed the xenograft tumor growth *in vivo*. These findings suggest that ISL is a candidate agent for the treatment of human endometrial cancer and may play an important role in ISL-induced apoptosis, autophagy and cell growth inhibition.

Biography

Hsin-Yuan Chen has completed her Master's degree from Taipei Medical University, Taiwan. She has received First Prize in Nutrition & Biotechnology Group in TMU 2015 Teachers and Students Joint Academic Symposium for an "Excellent Research Paper"

hsin246@gmail.com

Notes:

Li-Chun Lin, J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Isoliquiritigenin chemosensitizes to Doxorubicin and inhibits the cells growth of human uterine sarcoma cells

Li-Chun Lin
Taipei Medical University of Nutrition and Health Sciences, Taiwan

Doxorubicin (Dox) is widely used for the treatment of several cancers. However, multi-drug resistance (MDR) is a major clinical problem and an important cause of treatment failure. How to increase chemosensitivity and reduce the dose of chemotherapeutic agents, in order to prevent drug side effects and the development of new chemotherapeutic agents are important. Uterine sarcoma is a rare gynecologic cancer. The patients sometimes are asymptomatic. It has the high degree of malignancy, poor prognosis and high mortality rate. It can often be misdiagnosed as uterine fibroids. Isoliquiritigenin (ISL) is the flavonoid with chalcone structure isolated from licorice root. ISL has been shown to possess significant anticancer activities in many cancer types. In this study, we investigated the antitumor effects of ISL on human uterine sarcoma cancer cell MES-SA and the multi-drug resistant human uterine sarcoma cancer cell MES-SA/Dx5 and MES-SA/DxR-1. Our present results showed that, treatment of ISL alone or combination with Dox significantly inhibited the growth of cancer cells and increased the proportion of subG1 phase. Flow cytometry analysis indicated that ISL induced apoptosis and necrosis. In addition, ISL enhanced the autophagy associated protein expression of LC3B and apoptosis associated protein expression of cleaved-PARP. ISL also inhibited Bcl-2 and phospho-mTOR protein expression. Moreover, ISL inhibited the migration of the cancer cells. Taken together, ISL can inhibit human uterine sarcoma cancer cells through apoptosis as well as autophagy and increase the chemosensitivity to doxorubicin in multi-drug resistant human uterine sarcoma cancer cells MES-SA/Dx5 and MES-SA/DxR-1.

Biography

Li-Chun Lin is currently a graduate student from Taipei Medical University of Nutrition and Health Sciences, Taiwan. She studies the effects of Chinese herbs and phytochemicals on cancer disease.

lisa81318@gmail.com

Notes:

Yen-Ting Tung, J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Effect of melatonin on growth and abnormal deposition of extracellular matrix component in uterine leiomyoma cells

Yen-Ting Tung
Taipei Medical University of Nutrition and Health Sciences, Taiwan

Women suffering from leiomyoma account for a quarter of the world's female population. Studies indicate that leiomyoma may be expanded by estrogen imbalance, abnormal deposition of extracellular matrix and stem cell proliferation. Melatonin is an endogenous hormone produced by the pineal gland in the brain, can regulate physiological clock and secrete estrogen. In this study, we investigated the antitumor effect of melatonin on leiomyoma and smooth muscle cell (ELT3, UtSMC) *in vitro*. We examined the effects of melatonin on leiomyoma stem-like cells number, cell proliferation, cell cycle regulation, apoptosis or autophagy related protein expression and accumulation of extracellular matrix. Melatonin significantly inhibited the proliferation of leiomyoma cell in a dose-dependent and time-dependent manner. Melatonin reduced on leiomyoma stem-like cells number and induced leiomyoma cell early and lately apoptosis. Melatonin induced apoptosis and autophagy related protein expression. Melatonin inhibited accumulation of extracellular matrix on leiomyoma cell. These findings suggest that melatonin may inhibit leiomyoma cell proliferation and have the potential to improve the development of leiomyoma associated with functional food.

Biography

Yen-Ting Tung is currently a student in Taipei Medical University of Nutrition and Health Sciences. He studies the effect of phytochemicals on leiomyoma and cancer disease.

r362043@gmail.com

Notes:

Yuta Maekawa, J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Lactoferrin facilitates potential glucose regulation accompanied by the enhancement of incretin effect

Yuta Maekawa
Tottori University, Japan

Lactoferrin (Lf) is known for its physiologically pleiotropic properties. Nevertheless, the effects of Lf on glucose regulation have not been adequately analyzed. In the present study, we investigated whether Lf affects potential glycemic metabolism and glucose absorption from the small intestine in rats. Bovine Lf (bLf, 100 mg/kg) was intraperitoneally administered to rats before intravenous glucose injection (intravenous glucose tolerance test, IVGTT) or oral glucose administration (oral glucose tolerance test, OGTT). In IVGTT, bLf pretreatment had no significant effect on plasma glucose or insulin. In OGTT, the bLf group tended to show lower plasma glucose at and after the 15-min peak than the control group and decreased at 180 min. The change in plasma insulin from 0 to 30 min was higher in the bLf group than in the control group. Total plasma GIP was lowered at 60 min by the bLf treatment, while an immediate increase in total plasma GLP-1 was observed within the bLf group undergoing OGTT. In addition, bLf was associated with an increase in the amount of glucose absorbed into the everted jejunum sac. These results suggest that Lf may have a potential to suppress hyperglycemia, accompanied by plasma insulin elevation via transiently accelerating GLP-1 secretion and that Lf even enhances glucose absorption from the small intestine. Lf may have the potential to promote glucose metabolism via the so-called incretin effect.

Biography

Yuta Maekawa is currently a PhD student at The United Graduate School of Veterinary Science in Yamaguchi University. His research focuses on the effect of lactoferrin, a glycoprotein found in various mammalian body fluids, on glucose metabolism.

t011tm@yamaguchi-u.ac.jp

Notes:

Robie Joy A Cruz et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

A randomized controlled trial on the effect of10 grams *Moringa oleifera* powder leaves on the level of hemoglobin and hematocrit on infants' age 6-9 months

Robie Joy A Cruz, Esterlita V Uy and **Ma Nerrisa A De Leon**
Dr. Jesus Delgado Memorial Hospital, Philippines

Objective: To determine the effect of daily supplementation of 10 grams *Moringa oleifera* powder leaves given for 3 months in the level of hemoglobin and hematocrit of infants 6 to 9 months of age.

Methods: Data from the control group (rice porridge only) and the treatment group (rice porridge+10 grams *Moringa oleifera* powder leaves) were compared. Before and after levels of hemoglobin, hematocrit as well as weight, length and head circumference were measured.

Results: Data analysis showed that there was significant mean difference in the level of hemoglobin of the treatment group compared with the control group (p value<0.00068). Hematocrit level between the groups did not show significant difference (p value 0.45065). The mean change in the weight on the treatment group was higher than the control group but there was no significant mean difference between the two groups. The length and head circumference of the treatment group versus the control group also did not show any significant difference.

Conclusion: This study showed that daily supplementation of 10 grams *Moringa oleifera* powder leaves leads to higher level of hemoglobin in the infants. However, hematocrit level of the infants did not showed significant difference between the two groups. *Moringa oleifera* is a cheap, practical and effective supplement that may prevent anemia in infants.

Biography

Robie Joy A Cruz is an affiliate of Eduardo L. Joson Memorial Hospital in Philippines. She has done her Doctor of Medicine in Dr. Nicanor Reyes Medical Foundation in Philippines.

robiecruz11@yahoo.com

Notes:

Ming-Ya Kung et al., J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Protective effect of vitamin D on cerebral ischemia reperfusion injury

Ming-Ya Kung and **Chi-Hao Wu**
Taipei Medical University, Taiwan

Ischemic stroke is the main types of clinical stroke. Ischemic stroke cause severe brain inflammation and pro-inflammatory cytokines secretion through the activation of toll-like receptor and inflammasome. This study aims to investigate the protective action of vitamin D on cerebral ischemia reperfusion injury and the possible molecular mechanism. Middle cerebral artery occlusion (MCAO) was performed with eight-week-old male Sprague-Dawley rats and 90 minutes late to initiate reperfusion to investigate the effect of vitamin D supplements and deprivation to the brain damage and the performance of relational molecular. Results from the study found that: Vitamin D deficiency increases the severity of brain damage, vitamin D can reduce the damage; dietary deprivation of vitamin D caused the brain tissue lipid peroxidation product MDA accumulation, vitamin D can reduce lipid oxidation products; vitamin D can reduce caspase-1 and cleaved caspase-1 protein expression and inhibit IL-1β secretion; vitamin D can inhibit TLR2-MyD88-NF-κB signaling cascade. In conclusion, vitamin D may reduce cerebral ischemic reperfusion oxidative damage and inflammation by inhibiting activation of TLR2 and reduce the pro-inflammatory factor IL-1β of mature to protect against cerebral ischemia reperfusion injury.

jmy2217@hotmail.com

Notes:

conferenceseries.com

6th International Conference and Exhibition on

NUTRITION

September 14-16, 2016 San Antonio, USA

Eating behavior and biochemical serum indicators in adults with type 2 diabetes mellitus that habitat in rural areas of Jalisco, Mexico

Monica Navarro-Meza[1], **Karina Anai Garcia Camacho**[1], **Felipe Santoyo-Telles**[1], **Antonio Lopez Espinoza**[1] and **Omar Arroyo-Helguera**[2]
[1]University of Guadalajara, Mexico
[2]University of Veracruz, Mexico

Introduction: Eating behavior in Type 2 Diabetes Mellitus (T2DM) related to development and progression of complications.

Aim: Main objective of this study was to evaluate biochemical serum indicators and eating habits.

Method: A cross sectional observational study of 34 adults (18-60 years), applied an eating behavior instrument and evaluates biochemical serum indicators. Frequencies distribution and co-variance analysis with adjustment variables used.

Results: The 18% reported normal weight, 44% overweight, 38% obesity. Levels glucose was related to avoid any foods dislike (p=0.037); cholesterol was associated with dislike of fish and seafood (p=0.046); not usually including dessert in main meal (p=0.04); sweeten fruit (p=0.028) and including non-sweeten fruit (p=0.002). Low density lipoproteins were related to election food according to nutritional values (p=0.025), like to almonds, nuts, pistachios and seeds were related to high density lipoproteins. Triglycerides were associated to choose food because it's visually pleasing (p=0.005), not reading nutritional (p=0.028), drinking portion major of fresh water in day (p=0.014), including soup or other entry in main meal (p=0.026) besides, tortilla, bread or tostadas (p=0.013). Insulin was related with reading and understanding food's nutritional labels (p=0.037); another person making meals (p=0.01), chewing frequently each bite more 25 times (p=0.006), liking fruits (p=0.002), vegetables (p=0.009), beans, lenses, chickpeas (p=0.039), egg (p=0.045). Interleukin 6 were associated with another person making meals (p=0.01), chewing each bite more 25 times (p=0.006), disliking fruits (p=0.012), not include fruit in main meal (p=0.006). Antioxidant capacity was related to liking almonds, nuts, seeds, pistachios (p=0.001).

Conclusions: Eating behaviors could relate in protection or negative effect during T2DM progression.

monica.navarro@cusur.udg.mx

Notes:

6th International Conference and Exhibition on

NUTRITION

September 14-16, 2016 San Antonio, USA

e Poster

Nutrition 2016

Ahsen Ezel Bildik, J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

A lab-scale method for developing antimicrobial paper coating application on food packaging

Ahsen Ezel Bildik
Istanbul University, Turkey

Paper and paperboard materials are important for their suitability for food contact applications because of their structural advantage. The paper surface imparts antimicrobial properties to the nutrients. Coatings applications of paper surface in food packaging are important with respect to bestow antimicrobial features. In order to determine suitable coating material and substrates, there is a need for a lab-scale design. For this application, #0 and #3 drawdown bar and 3 kinds of paper were chosen. Wrapping paper, paper board and test liner were the base papers. Starch used as a binder. Distilled water was used for cooking the starch. Antimicrobial coat color is added the starch solution 10% (w/w). Paper surfaces were coated with the prepared coating color using a # 0 drawdown bar. It was paid attention that the maximum amount of coating applied on one side, was 4.5 g/m^2. According to obtained results, coating application is changed depending on the paper. While paperboard absorbed more antimicrobial emulsion, wrapping paper absorbed almost half of coating color at the same coating surface thickness. Similarly; # 0 drawdown bar was suitable for coating wrapping paper, # 3 drawdown bars was more suitable for test liner paper and paperboard

Biography

Ahsen Ezel Bildik has completed her PhD from Istanbul University and Postdoctoral studies from Istanbul University, Department of Forest Product Chemistry and Technology, Turkey.

ahsenezel.bildik@istanbul.edu.tr

Notes:

6th International Conference and Exhibition on

NUTRITION

September 14-16, 2016 San Antonio, USA

Accepted Abstracts

Nutrition 2016

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Mechanisms of protein induced satiety for appetite control during weight loss

Alexandra M Johnstone
University of Aberdeen, UK

With the ever-increasing obesity problem comes the search for effective dietary strategies to either prevent weight gain, promote weight loss or to maintain a lower body weight. Although one diet does not fit all, high-protein diets seem to provide a tool to promote appetite control and hence body weight control. Dietary strategies that can help reduce hunger and promote fullness are beneficial, since these are limiting factors for success. High protein diets, specifically those that maintain the absolute number of grams ingested, whilst reducing calories are a popular strategy for weight loss (WL) due to the effects of protein induced satiety to control hunger. This effect has been shown in *ad libitum* clinical studies lasting from 1 to 14 days, up to 6 months. In addition, greater WL has been achieved in comparison to control diets. The mechanisms responsible for the high satiating effect of protein are not known but likely to be around amino acid metabolism and food-gut-brain interactions linked to gut hormones. It is still not clear exactly the amount (g or %), type of protein (vegetable, diary, animal) that is required to promote satiety thus these mechanisms will be a focus for future research. Both the safety and efficacy of high-protein WL diets have been questioned, particularly in combination with low-carbohydrate advice. This has been recently reviewed with growing evidence to support the use of high-protein, moderate-carbohydrate diets as a dietary tool to achieve weight control (30% protein, 30% fat and 40% carbohydrate).

alex.johnstone@abdn.ac.uk

The importance of optimizing nutritional status in patients undergoing chemotherapy and radiotherapy

Alison Burton-Shepherd
Vocare Group, UK

Chemo-radiotherapy (CRT) causes or exacerbates symptoms, such as alteration or loss of taste, mucositis, xerostomia, fatigue, nausea and vomiting with consequent worsening of malnutrition. It is well known that radiotherapy is invariably associated with mucositis, xerostomia, dysphagia, hematological toxicities and other acute side effects, whose incidence increases when chemotherapy is also administered and that oral mucositis incidence leads to higher unplanned breaks and delays in radiotherapy administration. In addition, in many patients such toxicities may be very severe and even life threatening and may lead to treatment interruptions that are invariably associated with poorer outcome. This presentation will review best practice in the nutritional management of patients undergoing chemotherapy and radiotherapy.

alison.burtonshepherd@gmail.com

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Adiponectin, a marker of malnutrition

Fatma Chebbi, Violaine Tran Quang, Jean-Louis Golmard and **Jean-Marc Lacorte**
Hopitaux Universitaires Pitie-Salpetriere, France

Introduction and Aim: Adiponectin (ADPN), adipokine produced by adipose tissue, circulates in several forms, one form of high molecular weight (HMW) is considered to be biologically active. Unlike leptin, ADPN concentrations are lower in obese and/or insulin-resistant patients. Bariatric surgery bypass provides a significant reduction in body fat, improved carbohydrate and lipid parameters and standardization of ADPN concentrations. The long-term surveillance of patients who underwent bariatric surgery has allowed us to observe that there was, in some cases, exaggerated ADPN elevations among patients who had malnutrition with significant hypoalbuminemia. In these circumstances, we quantified the total ADPN (TADPN) and HMW in subjects with hypoalbuminemia and we followed the evolution of ADPN in malnourished patients before and after refeeding.

Materials & Methods: 57 subjects (28 W, 29 M), hospitalized at Pitié-Salpêtrière with hypoalbuminemia were explored. These patients were classified into two groups depending on the concentration of serum albumin: Severe hypoalbuminemia <20 g/L (13 W, 22 M) and hypoalbuminemia 20 g/L≤AB≤30 g/L (15 W, 7 M). 36 healthy volunteers constitute the control population (20 W, 16 M). We followed 5 patients (4 W, 1 M) who presented hypoalbuminemia after bariatric surgery. The TADPN was assayed by ELISA (ALPCO) and HMW was quantitated by an automated assay (Fujirebio Lumipulse G1200).

Results: As in controls, the concentrations of TADPN and HMW are higher in women than men among patients with hypoalbuminemia. However, serum concentrations of HMW and TADPN were significantly higher in subjects with severe hypoalbuminemia whatsoever in men (p=0.0004) and in women (p=0.0003). We were able to demonstrate that there was an inverse correlation between hs-CRP and TADPN and HMW (p=0.0003 and 0.0002, respectively). Finally, by applying a partial correlation test (by fixing hs-CRP concentrations), there is a significant negative correlation between albumin and TADPN (p=0.013), albumin and HMW (p=0.015). Moreover, when hypoalbuminemia is corrected through therapeutic care, we see decreased TADPNT and HMW blood concentrations.

Conclusions: We show in this work that the values of TADPN and HMW exceed the usual values in patients with hypoalbuminemia but they must be interpreted according to hs-CRP. The concentrations of adiponectin return to normal after hypoalbuminemia correction. While the regulatory mechanisms are still unknown, we propose to evaluate the interest of TADPNT and HMW dosage as a nutritional marker by applying it to a larger population.

fatma.chebbi@aphp.fr

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Relationships between a prenatal nutrition education intervention and maternal nutrition in Ethiopia

Divya Lakshmi Selvakumar
Walden University, USA

In Ethiopia, 17% of pregnant women ages 18-49 are malnourished and have low awareness of prenatal nutrition, which may relate to increasingly high rates of maternal and infant mortality. The purpose of this mixed methods research study was to determine the effects of a community based prenatal nutrition education intervention program on maternal nutrition knowledge and attitudes in the Alaje district of Ethiopia. The theoretical framework was Sen's capability theory of poverty, in which opportunities can lead to well being and promote economic development. Research questions focused on the relationships among 8 independent variables; age, income source, degree of program implementation, marital status, education, number of pregnancies, number of children and occupation with respect to maternal nutrition knowledge and attitudes. Health workers recruited 135 pregnant and non-pregnant women in each of 2 villages: Dejen (control village) and Takha (experimental village), totaling 270 participants. The community intervention program was an add-on to the Ethiopian Government's nutrition program and provided information on portion sizes, the importance of eating an extra meal each day and obtaining adequate rest during pregnancy. Data from customized pretest and posttest focus groups and surveys were collected. Focus groups were analyzed manually and surveys were analyzed using 1-way ANOVAs and descriptive statistical analyses. The key findings were that the women in Takha had significantly greater knowledge of the importance of prenatal health requirements. The implications for positive social change include recommendations for policy makers about proper dietary practices in order to improve pregnancy outcomes related to maternal malnutrition.

divyals123@gmail.com

The effects of fermentation and enzymatic pre-digestion of pea on nutrient digestibility in broilers

Farshad Goodarzi Boroojeni, M Senz, K Kozlowski, K Manner, D Rose and **J Zentek**
Institute of Animal Nutrition, Germany

Fermentation with probiotics and enzymatic pre-digestion may be able to improve the nutritional quality of pea. This study examined the impacts of different inclusion levels of raw, fermented or enzymatic pre-digested peas on nutrients digestibility in broilers. For fermentation, pea was mixed with water (1:1) containing 2.57×108 *Bacillus subtilis* (GalliPro®) spores/kg pea and then fermented for 48 hours at 30 oC. For the pre-digestion process, pea was soaked in water (1:1) containing 3 enzymes, AlphaGal™ (α-galactosidase), RONOZYME® ProAct (protease) and VP (pectinases) and incubated for 24 hours at 30 oC. Nine standard diets were formulated by supplying 10, 20 and 30% of the protein with raw, fermented and pre-digested peas. The apparent ileal digestibility of Ca, P, K, protein, AAs and fat were measured at d 35. Data were subjected to ANOVA using the GLM procedure. Both types of processes reduced the raffinose, trypsin inhibitor and resistant starch. Increasing level of pea products reduced BWG and FI. Broilers fed pre-digested pea had the best FCR at d 35. Both processes had an identical effect on ileal digestibility of all nutrients except starch. The ileal digestibility of starch in raw pea was lower compared with both processed groups. The digestibility of Thr, Lys and Met were higher in 30% groups compared with 10% groups, while chicken fed 10% products showed highest digestibility of starch. In conclusion, both processes could relatively improve the nutritional quality of pea. Replacement of soybean by pea products at less than 20% inclusion level might have no negative impact on the nutrient digestibility and growth. These indicate the feasibility of both processes for nutritional quality improvement of pea, as a partial replacement for soybean in broiler feed.

farshadg2005@yahoo.com

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Implementation of the dieticians' recommendations on enteral energy and protein intakes improved head injury patients' recovery in the neurosurgery ICU

Fatemeh Ramezani Kapourchali
University of Manitoba, Canada

Underfeeding is a common problem in head injury patients in intensive care units (ICUs). This study investigated the effects of implementing of dietician recommendations on early and better provision of enteral nutrition in head injury patients admitted to the neurosurgery ICU. Forty-eight consecutive patients were divided into two groups of 24 patients each. In the first group, patients were fed based on physician's orders without any nutritional assessment and based on patient's tolerance. In the implementation group, each patient was fed based on nutritional requirements assessed by a dietician. Collected data included the time of initiation of feeding, the actual amounts of daily energy and protein intake on day 4 of hospitalization, the duration of mechanical ventilation and ICU stay for patients in both groups. The findings showed that the timing of initiation of enteral nutrition decreased significantly in patients after implementation. Additionally, patients under dietician's recommendation received more energy and protein on day 4 of feeding. Clinical outcomes including length of mechanical ventilation and ICU stay decreased non-significantly after implementation. The study showed that the presence of a dietician improved the energy and protein intake and the timing of initiation of feeding in head injury patients in ICU care unit team to improve the rate of undernutrition in head.

ramezanf@myumanitoba.ca

Threonine affects digestion capacity and hepatopancreatic gene expression of juvenile blunt snout bream (*Megalobrama amblycephala*)

Habte-Michael Habte-Tsion[1, 2], Mingchun Ren[1, 3], Bo Liu[1, 3], Jun Xie[1, 3], Xianping Ge[1, 3], Ruli Chen[3], Qunlan Zhou[1, 3] and **Liangkun Pan[3]**
[1]Nanjing Agricultural University, China
[2]Ministry of Marine Resources, Eritrea
[3]Chinese Academy of Fishery Sciences, China

The present study conducted a 9-week feeding trial to investigate the effects of threonine (Thr) on the digestion capacity and hepatopancreas gene expression of juvenile blunt snout bream (*Megalobrama amblycephala*). For this purpose, three tanks (300 liters per tank) were randomly arranged and assigned to each experimental diet. Juvenile fish were fed with diets containing graded Thr levels (0.58, 1.08, 1.58, 2.08 or 2.58% of the diet) to apparent satiation four times daily. At the end of the feeding trial, the results indicated that hepatopancreas weight, hepatosomatic index, hepatopancreatic protein content, intestinal weight, intestosomatic index and intestinal protein content increased with increasing dietary Thr levels up to 1.58% and thereafter decreased ($P<0.05$). The activities of chymotrypsin, trypsin, amylase and lipase elevated as dietary Thr levels increased up to 1.58% ($P<0.05$), while these activities decreased in most cases after 1.58% dietary Thr except for chymotrypsin and trypsin in the hepatopancreas (plateau 1.58-2.08% Thr). The relative gene expression levels of chymotrypsin, trypsin, amylase, lipase, target of rapamycin and insulin-like growth factor-I were up-regulated and the highest values were observed with 1.58% dietary Thr or 1.58 and 2.08% dietary Thr, whereas the relative gene expression levels of eukaryotic translation initiation factor 4E-binding protein 2 gradually decreased ($P<0.10$) as dietary Thr levels increased up to 1.58% and thereafter significantly increased ($P<0.05$), which could explain that about 1.58% dietary Thr could improve the growth and development of digestive organs and activities of digestive enzymes of juvenile blunt snout bream.

mike2692011@gmail.com

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Applications of nanotechnology in nutrition

Handan Akpinar
Sabanci University Nanotechnology Research and Application Center, Turkey

Healthy diet is literally indispensible to sustain a healthy life. However, it is always an issue to reach reliable and sustainable food sources and to keep the food fresh longer and get the maximum benefits from them due to the problems of modern world with increasing human population, industries and technology. Thus, there is an urgent need for innovative solutions to supply the food of high quality. In this sense, use of nanotechnology is very important and it is considered as an enabling technology to contribute food technology. Currently, nanotechnology has evolved more to the food industry in the areas of food production, processing, conservation, packaging, safety, sensing, nutraceuticals delivery and functional food etc. There are variety of nanosystems including quantum dots, nanoparticles, nanofibres, nanocapsules or nanoemulsions which are designed to take the role for developing better methods to enhance the food quality and quantity. Graphene derivatives are class of one of these nanosystems which have been recently under investigation to serve in nutrition industry. Recent studies have proved that it is possible to get incremental benefits from use of such nanosystems in food industry, in a very large span from therapy to agricultural production. However, it is always an issue of debate to cope with the possible disadvantages of such systems since technology brings the problems along with its solutions. Thus, to minimize these problems is another issue. My talk will focus on the use of nanotechnology in the area of nutrition and will shortly debate its advantages, possible unfavorable outcomes and solutions.

handan_akpinar@yahoo.com

Targeting mitochondria for preventing and treating diabetes with natural compounds from food and nutrition

Jiankang Liu[1, 2]
[1]Xi'an Jiaotong University, China
[2]University of Southern California, USA

Insulin resistance is an important feature of type-2 diabetes and obesity. The underlying mechanisms of insulin resistance are still unclear. Mitochondrial dysfunction, including mitochondrial loss and over-production of oxidants has been suggested to be involved in insulin resistance. Increasing evidence suggests that targeting mitochondria to protect mitochondria function could prevent and ameliorate various diseases associated with mitochondrial dysfunction to form a unique medicine, i.e., mitochondrial medicine. In this presentation, I will summarize our recent studies with nutrients to target mitochondria by stimulating mitochondrial homeostasis to improve mitochondrial function and regulate redox balance for preventing and ameliorating diabetes. We have focused on natural compounds from food and nutrition including olive, bitter gourd and pomegranate to regulate mitochondrial biogenesis and degradation in cellular systems and in animal models. The in vitro and in vivo studies on the effects and mechanisms of mitochondrial targeting nutrients or their combinations may help us to understand the importance and mechanisms of mitochondrial metabolism and to develop mitochondria-targeting agents for preventing and treating diabetes.

j.liu@mail.xjtu.edu.cn

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Nutrition, food, cell toxicity & cancer (NFCC)

Mehmet Isbir
University of Akdeniz, Turkey

Nowadays the most important subject that people are thinking about is on "healthy eating" such as which food is good for eating and which should be prohibited. Despite professionals and laymen advices to us what to eat to be healthy, recently scientists have some good suggestions about "healthy diets" that depends on molecular biology, genetics, toxicology and chemistry revealed some complex interrelationships of food with toxicology nutrition with detoxification and diet with the prevention of degenerative disease that should finally enable us to make judgments concerning us about "Healthy diets". In order to have healthy life, healthy food or diet is very important, for this reason it should always be taken in consideration. The importance of diet and nutrition in detoxication of chemicals under these subjects, various facts must be taken in consideration such modification of intestine absorption and intestine cell. Under the heading of diet it covers very large area from drug to processed food or processed food to raw vegetables or even vitamins. Also the term of cell includes cell of food or living organism. On the other hand, signaling between cells are very important even for the toxic consequences of diet and wealth such as it was shown that there is cancer cell signaling targeted by spice derived nutraceuticals or other type of cellular signaling systems, intracellular mechanisms that are controlled by intracellular calcium. The consequences of having food are either good healthy life or life with lot of difficulties such as with the disease; the worst is cancer, but having healthy food can also prevent the toxic affect of food.

isbir@akdeniz.edu.tr

Ethical aspect of nutrition therapy in anorexia nervosa

Mukadder Gun
GMMA Haydarpaşa Training Hospital, Turkey

Ethical debate frequently exists in the treatment of patient with eating disorders. Anorexia nervosa (AN) is a psychiatric illness that does not discriminate against age, gender, sexual orientation, race or religion. This condition decreases life quality and may be potentially dangerous; on the other hand AN problematic reactions in treating health professionals. Health professional/caregivers of adolescent medicine are often the consultants responsible for decision making hospitalization of AN patients. Finally doctors may be restricting these patients freedom and they may require enteral nutrition (EN), total parenteral enteral nutrition (TPEN) and other recommendations. Therefore, health professionals are always encountered dilemma about themselves ethical values on patient' feeding duty and patients autonomy. This study contains the following ethical aspects of nutrition therapy in AN: Values, autonomy concept of patients, rights of patients, respect for person, right to treatment refusal, duty of protect, restriction, patients will, forced treatment and paternalist medicine.

mgun@gata.edu.tr

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

Nutrition sensitive intervention combined with counseling to enhance quality of life among Indian female palliative cancer patients

Neha Kapoor
University of Westminster, UK

Worldwide prevalence of malnutrition, amongst cancer palliative patients is 81%. As cancer progresses, patients' develop malnutrition owing to disease and chemoradiotherapy. Aim of this study was to improve nutritional status of female palliative cancer patients and their quality of life by counseling and providing nutrient rich natural food (IAtta). Female cancer patients (n=47) attending palliative care clinic (AIIMS, New Delhi); with symptoms of cachexia were randomly distributed into control group (CG, n=24) and intervention group (IG, n=23). IG received 100 grams of IAtta and CG received wheat flour to be consumed as breads daily along with nutritional counseling for three months. Anthropometric measurements [weight, percentage body fat (%BF) and mid upper arm circumference (MUAC)] and quality of life (EORTC-C30 Questionnaire) were assessed at baseline and after three months. Data was analyzed using paired t-test and Wilcoxon signed rank test on variables assessed. P value<0.05 was considered statistically significant at 95% confidence interval. Of 47 patients, 17 in IG and 22 in CG completed the study. Patients in both groups maintained their body weights (IG, p=0.284; CG, p=0.401) by end of the study. %BF (p=0.041) decreased significantly in the CG and were maintained in IG (p=0.289). Furthermore, under quality of life domains, at end of study period; IG disclosed significant improvement in fatigue (p=0.012) and appetite (p=0.004), while CG reported significant decrease in physical functioning (p=0.014). Nutrition sensitive intervention (IAtta) along with counseling may improve quality of life and stabilize body fat in female cancer cachexia patients receiving chemoradiotherapy.

n.kapoor@my.westminster.ac.uk

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

The development in diagnosis of sub clinic cobalamin deficiency

Selda Demirtas
Ufuk University, Turkey

The growing data indicates that subclinical cobalamin deficiency (SCCD) is being diagnosed more than ever. Because of its common occurrence than classical cobalamin deficiency, SCCD is an important condition for public health. One question with SCCD is whether it is only a state of mild metabolic abnormality without any clinical signs or symptoms or is associated with clinical signs and symptoms, albeit vague. The exact prevalence of SCCD which is more frequent in young and middle aged adults is largely unknown. Furthermore, the absence of ideal test marker for cobalamin deficiency is aggravating the situation. It is clear that these problems can be solved with the evaluation of reference values of cobalamin and related tests in each population. In our current reference range study, serum cobalamin, folate and holotranscobalamin (Holo-TC) values, plasma homocystein and methyl malonic acid (MMA) levels were assayed in over the 400 healthy volunteers. The results indicated that, all of the tests except for the plasma homocysteine and MMA were found lower than detected by the manufacturer. They were divided to subgroups with respect to ages. Cobalamin and Holo-TC values of youngest group differ from the oldest group. So, we suggest the use of own reference values for each population and Holo-TC should be used together with the serum cobalamin in diagnosing SCCD. In another study, we observed that the cognitive test scores elevated with the increase of Vitamin B12 in young and middle-aged. In conclusion, SCCD is a hidden health problem that could be manifested by itself with a cognitive failure in the young and middle aged population. The serum cobalamin around 190-250 pg/ml should be considered for the diagnosis of SCCD which manifested by the cognitive impairment and cognitive functions should be assayed to provide exact diagnose.

seldademirtas@yahoo.com

Modified University of Wisconsin solution with melatonin and its efficacy on kidney preservation time

S Arbak[1], A Coskun[1], C Yegen[2], O Gunal[2], W Attaallah[2], I Seckin[3], B Cetiner[1], Z Yildirim[1], Y Erdemgil[1], M A Elmas[1], S Demirci[3], O Can[1], M Serteser[1], A Ozpınar[1], G Basdemir[4], A Belce[5] and **I Unsal[1]**
[1]Acibadem University, Turkey
[2]Marmara University, Turkey
[3]Istanbul University, Turkey
[4]Memorial Hospital, Turkey
[5]Bezmialem Vakif University, Turkey

In order to provide long lasting time period for organ preservation, donor organs are kept in special preservation solutions, as University of Wisconsin (UW) is the most preferred solution. The aim of this study is to extend the preservation time and also provide more effective protection. In order to provide better preservation, the ingredients of the UW solution were changed (Modified UW), as well as melatonin was included (Modified UW+M) in the preservation medium. Time related morphological changes of rat kidneys in each group were comparatively investigated within this study. Totally perfused kidneys were placed in UW, Modified UW and Modified UW+M solutions and kept during 2, 10, 24 and 72 h at 4 oC. Kidney tissue samples were taken at all given time intervals and these samples were prepared for light and transmission electron microscopy. Histopathological scoring based on renal injury, tubular and glomerular degeneration, inflammatory cell infiltration and vasocongestion was performed. Liquid samples, taken at 2, 10, 24 and 72 h at 4 oC from the storage media were investigated for lactate dehydrogenase (LDH) activity. Comparative findings at light and transmission electron microscopical levels and also LDH results revealed that preservation in Mod UW+M solution was statistically much more prominent in all time intervals, significantly at 72nd hour of preservation. In all groups, LDH levels were consistent with morphological results. We could conclude that Mod UW+M were the most effective solution among the experimental groups especially suitable for preservation up to 72 hours.

arbaks@yahoo.com

J Nutr Food Sci 2016, 6:5 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.027

The beneficial effects of CAPE and EGCG on breast cancer cell lines

Sevinc Inan
Izmir University of Economics, Turkey

Oxidative stress is the result of an imbalance between excessive reactive oxygen species and anti-oxidants mechanisms. Recently, the anti-oxidant caffeic acid phenethyl ester (CAPE) and Epigallocatechin Gallate (EGCG) have come to the attention of researchers. CAPE is an active component isolated from the propolis found in honey bee hives. CAPE has been determined to have neuroprotective, anti-oxidant, anti-inflammatory and anti-apoptotic properties. It is nontoxic and is consumed as a traditional medicine. As a potent anti-oxidant and NF-κB inhibitor, CAPE is more effective than the other types of natural flavonoids found in fruits, vegetables and tea. In vivo studies showed that CAPE prevents the formation of ROS, malondialdehyde (MDA) and peroxynitrite. (EGCG) is also an anti-oxidant polyphenol found in green tea. It may have health benefits as a nutritional supplement for cancer, atherosclerosis, diabetes, neurodegenerative diseases and HPV virus infection. Anti-oxidant effects of EGCG protect cells from lipid peroxidation and DNA damage induced by reactive free radicals. EGCG directly interacts with proteins and phospholipids in the plasma membrane and regulates signal transduction pathways, transcription factors, DNA methylation, mitochondrial function and autophagy to show many of its beneficial biological actions. EGCG induces apoptosis in several human cancer cell lines including breast, prostate, lungs, ovaries and liver. In this presentation, the beneficial effects of CAPE and EGCG on MCF-7 and MDA 231 breast cancer cell lines will be discussed.

sevincinan@yahoo.com

Regulation of iodide secretion to milk by the mammary gland expressed Na+/I-Symporter (NIS)

Uygar H Tazebay
Gebze Technical University, Turkey

Activity of the sodium/iodide symporter (NIS) in lactating breast is essential for iodide (I-) accumulation in milk. This is an essential activity for the proper development of the suckling newborn, as I- in milk is the baby's only source for thyroid hormone synthesis. Independent of lactation, significant NIS up-regulation was also reported in breast cancer, indicating a potential use of radioiodide treatment. All trans-retinoic acid (tRA) is a potent ligand that enhances NIS expression in a subset of breast cancer cell lines and in experimental breast cancer models. Aiming to uncover genetic elements directly regulating NIS expression, we screened evolutionary conserved non coding genomic sequences for responsiveness to tRA in mammary epithelial model cell lines. Here, we report that a potent enhancer in the first intron of NIS mediates direct regulation by tRA stimulated nuclear receptors. In vitro as well as in vivo DNA-protein interaction assays revealed direct association between retinoic acid receptor-a (RARa) and retinoid-X-receptor (RXR) with this enhancer. Moreover, using ChIP we uncovered early events of NIS transcription in response to tRA, which require the interaction of several novel intronic tRA responsive elements. These findings indicate a complex interplay between nuclear receptors, RNA Pol-II and multiple intronic RAREs in NIS gene and they establish a novel mechanistic model for tRA induced gene transcription.

tazebay@gtu.edu.tr