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Poster Presentations

Qing Liu et al., J Obes Weight Loss Ther 2018, Volume: 08
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FMT reduces the mortality of BALB/c mice caused by *Listeria monocytogenes* (EGD-e) infection

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Listeria monocytogenes (Lm) is a kind of food pathogenic bacteria with strong pathogenicity that has been shown previously to cause infection via the gastrointestinal (GI) tract. External pathogens can cause changes in gut microbiota, and such a change can promote or confer resistance to the infection of pathogenic bacteria. However, the changes in the microbiota during Lm through the GI tract and infect the body is unknown. Eight-week-old mice's were inoculated orally with *L. monocytogenes* EGD-e, and portions of the liver, spleen and cecal contents were removed, homogenized and plated, and feces were collected on 0 day, first day and third day. After that, different concentrations of FMT were used to treat Lm infected mice. *L. monocytogenes* culture confirmed that the content of Lm in cecum after intragastric inoculation reached the highest level on first day, and then remained at a low level. The content of Lm in spleen and liver reached the highest level on third day. The percentage of the *Proteobacteria* spp, *Bacteroidetes* and *Cyanobacteria* on first day remained significantly higher than that of the 0 day ($P<0.01$), while the proportion of *Lactobacillus* and *Staphylococcus* on first day was significantly lower than that of the 0 day ($P<0.01$). Compared to first day, the *Coprococcus*, *Blautia* and *Eubacterium* increased significantly on third day. In addition, the mortality of infected mice was reduced by 28% after FMT treatment compared with PBS treatment. Finally, we showed that inoculated with EGD-e significantly altered the gut microbiome in mice in different times and the potential probiotics increased in infected mice like the *Blautia* may be developed as new probiotics to enhance resistance against *L. monocytogenes* infections. The gut microbiome of healthy mice can significantly reduce the mortality of infected mice by reducing the inflammatory response and rebuilding the dysbacteriosis.

Biography

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Efficacy of beta-glucans from barley and maintenance of normal blood LDL-cholesterol concentrations: A case study in Ghana

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A claim on beta-glucans and maintenance of normal blood cholesterol concentrations has already been assessed with a favorable outcome. The main objective of this study was to assess the claim of beta-glucans from barley grain products lowering effect on low-density lipoprotein (LDL) and cholesterol among Ghanaian population. Total cholesterol and LDL-cholesterol are the endpoints measures for this study. Participants with elevated blood LDL-cholesterol concentration (≥3.8 mmol/L) were eligible for the intervention phase. The main study parameters were LDL- cholesterol and total cholesterol. Out of total 343 participants recruited, 20.7% (71/343) were diabetic while 8.75% (30/343) were pre-diabetic. Also, 63.64% (217/343) had high total cholesterol levels, 32.46% (111/343) had high levels of LDL and 27.57% (94/343) had high triglyceride. However, only participants with high LDL (111) were selected for the intervention phase. Many (43.59%) of the study participants were within the age range of 31-60 years. During the baseline survey, 16.16% of the participants were diabetic, during the two weeks follow up, 12.12% were diabetic and 7.46% during the four weeks follow up of daily administration of beta-glucans supplement. Also, the proportion of participants with high TCHOL dropped from 95.96% to 78.79% and slightly increased to 83.58% by follow-ups I and II respectively. The proportion of participants with high LDL dropped from a baseline of value of 95.96% to 60.61% and increased to 79.1% by follow-ups I and II respectively. Also, the proportion of participants with desirable HDL dropped from 95.96% at baseline to 71.72% and 37.31% by follow-ups I and II respectively. The proportion of participants with high TG at baseline was 34.34% and this has declined to 34.34% and increased slightly to 32.84% by follow-ups I and II respectively. Beta-glucans has significantly lowered blood cholesterol concentrations among Ghanaians.

Biography

Kennedy Adu-Twum has completed his MBChB program from the Kwame Nkrumah University, Faculty of Medicine, Ghana. He is a Junior Physician Health Staff at the Kumasi South Hospital of the Diagnosis Directorate of the hospital and has served for two years. He has published 13 papers in reputed journals and has been serving as an Editorial Member for many heaths.

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Endocrine activities of adipocytes extracted from subcutaneous and visceral adipose tissues of obese animals induced by high fat diet and supplemented with omega 3 fatty acid

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The efforts dedicated to finding the cure for obesity and associated disorders lead to an intense interest in adipocyte metabolism. The consumption of ω-3 fatty acids (FA) presents beneficial effects on changes caused by obesity. The aim of this study was to investigate the adipokines secretion of isolated adipocytes from obese mice induced by high fat (HF) diet, supplemented or not with fish oil (FO) [rich in ω-3 FA (EPA/DHA, 5:1)] with emphasis on the differential response of subcutaneous and visceral adipose deposits, inguinal (ING) and retroperitoneal (RP) region, respectively. C57BL/6J mice received control (CO) or HF diet for 8 weeks. Supplementation with FO (2 g/Kg p.c., 3 times/week) was initiated 8 weeks after the induction of obesity, remaining until the end, totaling 16 weeks of experimental protocol. The white adipose tissue ING and RP were removed for isolation of adipocytes that were subjected to D'MEM / 10% FBS culture for 30 hours. At the end, adipokines concentrations in the culture supernatant were determined using specific ELISA kits. The adipocytes of the HF group showed a significant hypertrophy followed by an increase in the secretion of proinflammatory cytokines TNF-α and IL-6 compared to the CO group, whereas the HF + FO group presented total reversion of this effect, in both ING and RP adipocytes. There was no difference in secretion of adiponectin. The relevance of isolated adipocytes in the secretion of these cytokines is highlighted here. The adipocytes are affected by the HF diet and the FO has a protective effect on these parameters.

Biography

Roberta Dourado Cavalcante da Cunha de Sá has completed her PhD from Federal University of São Paulo. She is a Pharmacist, Master of Science and has published one paper as first author and three papers as co-author.

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Influences of Palmitoleic Acid In metabolism and Gene expression of white Adipose tissue's cells

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We have recently demonstrated that palmitoleic acid (16:1n7) increases lipolysis, glucose uptake and glucose utilization for energy production in white adipose cells. In the present study, we tested the hypothesis that palmitoleic acid modulates bioenergetic activity in white adipocytes. For this, 3 T3-L1 pre-adipocytes were differentiated into mature adipocytes in the presence (or absence) of palmitic (16:0) or palmitoleic (16:1n7) acid at 100 or 200 μM. The following parameters were evaluated: lipolysis, lipogenesis, fatty acid (FA) oxidation, ATP content, oxygen consumption, mitochondrial mass, citrate synthase activity and protein content of mitochondrial oxidative phosphorylation (OXPHOS) complexes. Treatment with 16:1n7 during 9 days raised basal and isoproterenol-stimulated lipolysis, FA incorporation into triacylglycerol (TAG), FA oxidation, oxygen consumption, protein expression of subunits representing OXPHOS complex II, III, and V and intracellular ATP content. These effects were not observed in adipocytes treated with 16:0. Palmitoleic acid, by concerted action on lipolysis, FA esterification, mitochondrial FA oxidation, oxygen consumption and ATP content, does enhance white adipocyte energy expenditure and may act as local hormone.

Biography

Maysa Mariana Cruz will completed her PhD at the age of 28 years from Federal University of São Paulo. She is a pharmacist, Master of science and has published 1 paper as first author and 7 papers as coauthor.

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The relationship between anthropometric index and non-alcoholic fatty liver in patients and healthy individuals in oil companies of south Pars region of Assaluyeh (Iran)

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Non-alcoholic fatty liver disease (NAFLD) is the most common type of liver disease. Obesity is considered as predictor of the risk of developing the disease in the general population. This study was carried out aimed to determine the relationship between BMI and non-alcoholic fatty liver in patients and compare it to the healthy group. This case-observational study was carried out on 436 patients with NAFLD and 737 healthy individuals. Height, weight and body mass index were measured in all subjects. Statistical analysis was performed using T-test and logistic regression model. $P<0.05$ was considered as significance level. The mean age of patients was 42 years. A significant difference was observed in mean weight and BMI in the patients group. The mean BMI in patients with NAFLD and in healthy subjects was 27 and 25.04 respectively. According to the results, there was a significant relationship between overweight ($30<BMI\leq25$) and obesity ($BMI>30$) and there is a risk of NAFLD ($P<0.001$), and it was also found that abdominal obesity increases the risk of NAFLD. No significant difference was observed in BMI indices of patients with NAFLD and healthy people. Abdominal and local obesity are considered as important line factors for talent to NAFLD.

Biography

Masoumeh Dabiri has completed her PhD and Post-doctoral studies from Qom University of Medical Sciences (IRAN). She has eight years of experience as Family Doctor in oil industry organization from 2010 up to now and she is Occupational Medical Clinic Manager and Owner from 2014 up to now.

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Accepted Abstracts

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Efficacy of novel reduced volume oral contrasted computed tomography protocol for detection of early leaks after sleeve gastrectomy for obesity

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Obesity is a modern world epidemic and 50% of European population between 35-65 years is either overweight or obese. Sleeve gastrectomy gained popularity as a practical obesity surgery technique. One of the most drastic complications after sleeve gastrectomy is staple line leak, occurring between 1 to 3% of patients. Prompt management of staple line leak is essential in avoiding prolonged hospital stay and mortality. Recent studies showed that, radiologic contrast agent upper gastrointestinal examination has low sensitivity for detection of leaks. In case of clinical suspicion of a leak, computed tomography scan with oral contrast agent is recommended. But there is not enough prospective data on efficacy and methodology (timing, volume of oral contrast, etc.,) of routine computed tomography after sleeve gastrectomy. Our objective of this study was to prospectively evaluate the efficacy of upper abdomen computed tomography on postoperative day three after sleeve gastrectomy using only 50 cc oral contrast agent in 500 cc of drinking water. Patients were instructed to drink the last 50 cc of water just before lying on gantry. For this purpose, 168 patients who underwent laparoscopic sleeve gastrectomy were included in the study. Patients were started with oral feeds, if computed tomography was negative for a leak and discharged. They were followed as outpatient on first, third, sixth and 12th months. None of the patients with a tomography negative for a leak had a clinically manifest leak on follow up (Sensitivity 100%). Our study showed that using minimal amount of only oral contrast agent, accurate timing and only with upper abdomen sections leaks can be detected with very high accuracy.

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The impact of obesity on seminal fluid in patients with male infertility

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Background: Data on the effect of obesity on seminal fluid and men fertility are inconsistent. The aim of this study was to evaluate the impact of body mass index (BMI) on semen characteristics.

Methods: A cross-sectional study was conducted on 74 infertile men. Semen sample were collected, and sperm concentration, progressive motility, total motility and normal sperm morphology were assessed in accordance with WHO 2010 criteria. For each patient, weight and height were measure and patients were divided by BMI into normal weight (BMI: 18.5–24.9 kg/m^2, n=30), overweight (BMI: 25–29.9 kg/m^2, n=30) and obese (BMI: ≥30 kg/m^2, n=14). Seminal fluid parameters were compared among the three groups.

Results: Although sperm concentration was lower in obese men, sperm concentration, progressive and total motility and normal sperm morphology did not significantly differ among normal weight, overweight and obese groups (P>0.05).

Conclusions: Our findings suggest that BMI may have no influence on sperm concentration, motility and normal morphology in infertile men.

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To investigate the influence of polymorphisms in *PRDM16* and *PDE4D* genes which are involved in thermogenesis process on obesity and blood lipids profile in Saudi population

Aisha Alamrani
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Aim: The aim of this study was to investigate the influence of polymorphisms in *PRDM16* and *PDE4D* genes which are involved in thermogenesis process on obesity and blood lipids profile in Saudi population.

Methods: A case control format was used that involved 89 obese individual and 84 non-obese (control). The *PRDM16* (rs2651899) and *PDE4D* (rs295978) polymorphisms were genotyped using KASP™ (Competitive Allele-Specific PCR) method.

Results: Participants with the mutated genotypes, AA and AG, of *PRDM16* (rs2651899) polymorphism were significantly more likely to be obese as compared to participants with wild type genotype (OR=21, 95% CI=5.4190 to 84.4231, P value<0.0001 and OR=44.6, 95% CI=11.5984 to 172.0157, P value<0.0001, respectively). This polymorphism found to be significantly affecting the participants blood lipids profiles. In contrast, *PDE4D* (rs295978) polymorphism was not associated with risk of obesity and had no effects on blood lipids profile.

Conclusions: We found that the *PRDM16* polymorphism (rs2651899) is a risk factor for obesity and influence blood lipids profiles significantly in Saudi population. While the *PDE4D* (rs295978) polymorphism didn't show significant effect on risk of obesity or blood lipids profiles.

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DNA protective and antioxidant effects of Astragalus methanolic extract in streptozotocin-induced diabetic rats

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The protective effect of Methanolic Astragalus Roots (MAR) extract (250 and 500 mg/kg b.w) against oxidative stress was evaluated in Streptozotocin (STZ) induced diabetes rats. Administration of MAR extract induces a significant decrease in ROS production, Malondialdehyde (MDA) level, and protein carbonyl (PC) contents, and protects against DNA damage showed in diabetic rats. Decreased superoxide dismutase and catalase enzymes activities revealed in pancreas, liver, kidney and brain-STZ-induced diabetes groups were significantly restored in MAR-treated groups compared to the untreated diabetic group. Moreover, MAR extract was able to reduce nitric oxide (NO) levels and to enhance phagocytic activity of macrophages. Our study demonstrated that MAR extract may be effective against development of diabetes complications through the improvement of the oxidative status, especially in the pancreas and liver. This could be an important support for further investigations of this bioactive plant in the development of dietary supplement and pharmaceutical products.

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Why the weight? A qualitative analysis of interactions between patients with morbid obesity and the Irish healthcare system

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Sixty percent of Ireland's adult populations are overweight or obese. Evidence to date has shown that the causes of obesity are multifaceted, requiring a range of different solutions at various levels. This qualitative study aimed to explore the opinions of 15 patients with morbid obesity regarding the effectiveness of specific individual and population-based nutritional and lifestyle interventions aimed at tackling obesity. A representative sample of 15 patients with morbid obesity (BMI >40kg/m2) was selected from three general practices in the greater Dublin area. Participants took part in a semi-structured face-to-face individual clinical interview. Questions focused on participants' experiences of discussing their weight with their general practitioner (GP) and other healthcare providers, and their perceptions of the usefulness of various public health interventions aimed at reducing national obesity levels. Thematic framework analysis was undertaken, to identify the dominant and subdominant themes. Results indicate that many patients with morbid obesity have either never discussed their weight with their GP or have had negative experiences. Stigma and embarrassment were identified as common issues which prevent patients discussing their weight with their GP. Poor motivation, medical comorbidities and denial that excess weight is a problem were also identified as barriers. Opinions regarding the effectiveness of specific public health measures were mixed. Strengths of this study include its topical subject matter, and the fact that there has been limited qualitative research into obesity in Ireland to date. Limitations include its small sample size, an excess of female participants and unavoidable selection bias, as only patients comfortable with their weight and willing to articulate their views on this sensitive and emotive topic in a formal interview setting were included.

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A comprehensive system for weight management implementing golden rules and findings of popular field trials and research through innovative technology

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There are countless research programs and field trials to understand obesity and find ways to stop or mitigate the epidemic. The results are spread to people through various channels. Most of the findings on what people should do are a common knowledge. Moreover, there are numerous gadgets and programs to help people to lose weight. It is $246 B market, $66B US alone. Nonetheless people are getting bigger and bigger besides all the effort they do. When they are tired of not succeeding, they lose heart. On the execution front, what is missing? There is no comprehensive system that would assist and guide people when they are executing their effort on weight management. We have developed a complete system, SureFix, which comprises of an innovative patent pending scale and suite of ground breaking software programs and applications weaved through internet of things, data analytics and artificial intelligence. This system implements golden rules and findings of popular research through technology. The scale itself is a breakthrough in scale technologies, which shows the users where they stand in their overall and short term goals right on its screen. It implements the idea of breaking large goals into sub goals, accountability circle, and the idea of instant feedback as you step on the scale. The sub goals are dynamically assigned reassigned and manage by a patent pending algorithm. The system put the user back on track if he/she gets of track. It is truly a secret sauce that has been missing for decades.

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Can insulin-like growth factor-1 (IGF-1) predict menstrual recovery in adolescents with anorexia nervosa (AN)?

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Aim: The aim of this study was to assess whether insulin-like growth factor-1 (IGF-1) can be a good predictor of menstrual recovery in girls with anorexia nervosa (AN).

Material & Methods: Prospective study of adolescents presented with anorexia nervosa (AN) and amenorrhea in our department. Anthropometric parameters, luteinizing hormone (LH), estradiol and IGF-1 levels were evaluated at the beginning and at the time of menstrual recovery, while all girls were being treated for nutritional recovery.

Results: Thirty eight adolescents with mean age 17.23±0.89 years, mean body mass index 16.67±2.46 Kg/m2, mean waist-hip ratio 0.77±0.12, mean waist circumference 0.67±0.09 m, mean LH 0.18±0.03 (IU/L), mean estradiol levels 23.46±5.77 pg/ml and mean IGF-1 levels 126.56±23.77 ng/ml, were included in our study. Mean years of menstrual recovery were 2.76±0.62. All hormonal profiles improved after resumption of menses and nutritional recovery, with IGF-1 correlating the most ($p<0.0001$), showing mean levels of 327.78±56.12 ng/ml.

Conclusions: IGF-1 plays a crucial role as a predictor of menstrual recovery, although there is a big list of other hormonal and anthropometric factors that should not be omitted during the evaluation and management of girls with AN.

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