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Guest Editor:

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European Journal of Clinical Investigation

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The Society holds one Annual Scientific Meeting each year, usually in April/May. Meetings are held in different centres in Europe. Other Society's activities include the sponsorship of Workshops and Postgraduate Courses and the encouragement of the exchange of Scientists between Laboratories.

Agreement between the European Society for Clinical Investigation and the American Federation for Medical Research

An agreement has been reached between the councils of the ESCI and AFMR as follows:

(i) *ESCI members* can now submit abstracts for presentation at the joint Annual Meetings of the AFMR, AAP and ASCI.

(ii) *ESCI members* can apply for membership of AFMR on the normal terms. Those wishing to apply for membership should download an application form from the *Journal of Investigative Medicine*.

(iii) *AFMR members* can submit abstracts for presentation at the Annual Scientific Meetings of ESCI. Details of ESCI Meetings will appear regularly in the *Journal of Investigative Medicine*, and AFMR members can submit abstracts to ESCI when submission opens.

(iv) *AFMR members* can apply for membership of ESCI on the normal terms.

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Background: Several studies have identified weight loss trajectories after bariatric surgery (BS), and have assessed specific techniques of BS. But no study to date, to our knowledge, has sought to compare the empirical trajectories of BMI after BS nor has sought to identify the main psychopathological and personality predictors of BMI trajectories. As such, this study aimed to explore the empirical trajectories of BMI one-year following BS, and to identify the risk factors for each trajectory, which could be useful in developing more efficient interventions for these patients.

Material and methods: This study included 115 severely obese patients who underwent bariatric surgery. Assessment included metabolic variables, psychopathological and personality measures.

Results: Growth-mixture-modeling identified four separated trajectories for the percentage of total weight loss course-shape (namely T1 “good-fast”; T2 “good”; T3 “low”; and T4 “low-slow”). After adjusting for BS subtype and metabolic baseline state, T1 and T2 registered less eating and general psychopathology. T1 was characterized by the lowest scores in novelty seeking and self-transcendence, whereas T4 was defined by the highest novelty seeking and the lowest persistence.

Conclusions: Our findings suggest that psychological state prior to BS is predictive of BMI trajectories during the 12 months following BS. Therefore, some strategies could potentially enhance results in these patients. For example, strategies to cope with middle-long term goals and specific personality traits, such as techniques for decreasing impulsivity, or enhancing persistence, self-directedness and cooperativeness could be recommended before BS. In this line, the development of a temperament and character-focused treatment would be useful in these patients.

P183-T | Features of eating behavior in adolescents

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Experts of the World Health Organization view obesity as an epidemic. The purpose of the study was to study the nutritional behavior of schoolchildren in adolescence in Kazan. The method of questionnaire survey. We conducted a survey of 242 schoolchildren aged 10–15 years. The majority of respondents, the main meal by volume and calorie content is in the evening. According to the results of the survey, only 52% of teenagers include fresh vegetables and

fruits in their diets daily. Among meat products, meat (poultry) is regularly consumed 62.5–67.5%. Sausages in the diet are present in 59.8% of respondents. Only 48.5% of schoolchildren eat fish. Every third respondent visits the fast food network once a week, and the main product of consumption is French fries. In the diet of adolescents, the carbohydrate component (national cuisine) predominates at the expense of flour and confectionery products 65.4%, so regularly eat sweets and chocolate 47.1–65.3%. Regularly extra salt food 49.2% of schoolchildren. A positive relationship between age and the presence of pain in the stomach ($r = 0.46$), difficulty with falling asleep ($r = 0.50$), headaches ($r = 0.51$) was determined. To the senior classes the frequency of complaints among students increases. Thus, the availability of food and a variety of delicious food, the national characteristics lead to overeating and, as a result, an increase in body weight. Source of financing “This work was funded by the subsidy allocated to the Kazan Federal University for the state assignment in the sphere of scientific activities”. State assignment 19.9777.2017/8.9

P184-T | Results of dietary studies in junior schoolchildren

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The problem of overweight and obesity, which was previously considered to be peculiar only to the countries with high income, becomes widespread in urban conditions in particular. The cause of overweight and obesity in children is global shift of nutrition towards consumption of foods with high content of fats, sugar and low content of vitamins, minerals and other nutrients.

Nutrition of 650 schoolchildren aged 7–10 years old from the city of Kazan was studied according to the following indicators: daily food package, chemical composition, the parents’ questionnaire survey. The assessment of chemical composition of diets was carried out on the computer program “Analysis of the human nutritional status”. It was found out that children received less such foods as meat and meat products (67% of Recommended Dietary Allowances (RDA)), milk and dairy products (72.2% of RDA), fish and sea products (35.0% of RDA), eggs (80.4% of RDA) than they were due. The level of cereals and pasts consumption exceeded RDA by 60.0%. Vegetables and fruit made 92.5% of RDA in daily intake with the children nutrition. It was noted that the nutrition of junior schoolchildren was monotonous, most frequently they ate

pasta, poultry, sausage products and sweets. The dietary energy value made 2154 ± 26 kcal/day (the standard intake being 2100 kcal/day). A carbohydrate-and-fat eating pattern was identified in schoolchildren. The nutrition was imbalanced, the ratio of basic nutrients in daily diets made 1:1.5:6.2 (the standard ratio being—1:1.1:4.8). Nutritional studies of schoolchildren showed a poor level of both school catering, and home catering, low level of parents' knowledge about the principles of healthy nutrition, this fact being the risk factor of overweight in children. This work was funded by the subsidy allocated to Kazan Federal University for the state assignment in the sphere of scientific activities 19.9777.2017/8.9

P185-T | Fibroblast growth factor-21 as a dual hepatokine/adipokine in the control of lipid metabolism

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Fibroblast growth factor-21 (FGF21) is a hormonal factor with strong anti-diabetic effects. It is released mainly by the liver (hepatokine). Hepatic expression of FGF21 is induced in response to physiological or pathological lipid challenges due to the activation of the FGF21 gene transcription by PPAR-alpha. Moreover, several hepatic insults (e.g. ER stress) cause also a strong induction of hepatic FGF21 expression and release. In fact, FGF21 in blood is increased in obesity, type II diabetes and other metabolic pathological conditions, being a biomarker of hepatic stress and NAFLD in human patients. There are indications that obesity is an FGF21-resistant stage, and metabolic insults eliciting increased FGF21 expression in obesity cause a reciprocal repression of the expression of beta-Klotho, the key co-receptor mediating cellular FGF21 responsiveness. Experimental gain-of-function (FGF21 treatment) and loss-of-function (FGF21-null mice) indicate protective effects of FGF21 on hepatic steatosis. However, FGF21 behaves also as a brown adipokine. Thus, thermal stress leads to a strong secretion of FGF21 by brown fat whereas hepatic FGF21 is repressed and a minor induction of blood FGF21 occurs. White adipose tissue is a target of FGF21 whereas secretion of FGF21 by white fat appears to have mostly an autocrine role, with a minor relevance in humans. The cross-talk of FGF21 regulation in liver and adipose tissues appears as a key pathophysiological event in relation to lipid homeostasis.

P186-T | Oncostatin m is secreted by immune cells and overexpressed in patients with obesity and hyperglycemia: potential role in the development of type 2 diabetes

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Background: Obesity can lead type 2 diabetes (T2D), however there are patients with obesity who present euglycemia. The mechanisms by which T2D appears have not been fully elucidated. Oncostatin m (OSM) is a proinflammatory cytokine, member of the IL-6 family, which is increased in obesity in mice and humans, and impairs browning in mice. Here, we aim at evaluating the potential role of OSM in the development of T2D in patients with obesity.

Material and methods: A cohort of 25 patients across a range of BMI (24–60 kg/m²) were recruited for this study. Patients were classified in 3 groups according to clinical data: (i) Healthy normal-weight controls; (ii) Normoglycemic obesity (fasting glycemia <100 mg/dL); (iii) Hyperglycemic obesity (fasting glycemia >100 mg/dL). Subcutaneous white adipose tissue (sWAT) was collected for RNA analysis. To elucidate the main source of OSM, stromal-vascular fraction (SVF) and adipocytes were isolated. T lymphocytes were also magnetically purified from the SVF to determine gene expression of OSM and its receptor.

Results: OSM mRNA levels were increased in sWAT from patients with obesity compared to healthy controls. Moreover, we observed that OSM mRNA expression was increased in patients with 'hyperglycemic obesity' compared to those who had euglycemia ($P = 0.03$). A direct correlation was found between OSM gene expression and insulin, HOMA-IR and triglyceride levels.

Moreover, we identified T lymphocytes as the main source of OSM in patients with obesity. In addition, the OSM receptor was detected in SVF and mature adipocytes, and T lymphocytes also showed the highest levels in comparison to other fractions.

Conclusions: Considering the higher levels of OSM found in WAT of obese patients with hyperglycemia, we propose