fancy. The most severe complication of this condition is brain injury due to severe hypoglycemia.

KEYWORDS: hyperinsulinism, hypoglycemia, infancy.

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THE INFLUENCE OF DPP-4 INHIBITORS ON FAT METABOLISM IN TYPE 2 DIABETES PATIENTS

A. Ametov, D. Gusenbekova

Russian Medical Academy of Continuous Professional Education, Moscow, Russia

Background. To evaluate the effect of sitagliptin in combination with metformin on glucose toxicity and lipotoxicity in patients with type 2 diabetes and obesity. **Material and methods.** The study involved 82 patients (55 women, 27 men, mean age 56,1±5,47 years) with obesity, lipid metabolism disorders, who have not reached target levels HbA_{1c} (average HbA_{1c} 8,3±1,6%) after metformin and diet therapy. The first group of patients (42 patients) received co-formulated drug, consisting of sitagliptin 100mg and metformin 2g once a day; the second comparison group (40 patients) received metformin 1.5—2.0 g/day. Dynamics of fasting glycemia, postprandial glycemia, glycated hemoglobin, weight, BMI, WC, WHR, lipid profile (total cholesterol, triglycerides, LDL, HDL, apoβ protein), insulin, proinsulin, leptin, adiponectin, insulin resistance using the index HOMA IR and functional activity of β-cells (by HOMA-β index) was evaluated at baseline and at 6 months of therapy. In addition, MRI was performed to assess visceral fat in all the patients. **Results.** At 6 months patients in both groups demonstrated significant positive changes in the levels of fasting glucose, postprandial glycemia and glycosylated hemoglobin. In group I, HbA_{1c} decreased from 8.3±1.6 to 6.6±1.24% (p<0.01), in group II there was a decrease from 8.35±1.75 to 7.62±1.39% (p<0.01). FPG and late products of glycosylation levels in group I reduced on average by 2.67 and 3.3 mmol/L, correspondingly, in group II by 2.1 and 1.8 mmol/l. No significant differences in the dynamics of total cholesterol, HDL between the groups were found. LDL in group I lowered by 0.7 mmol/l, in group II by 0.3 mmol/l (p<0.05); in group I, TG decreased by 1.33 mmol/l. in group II by 0, 63 mmol/l (p<0.05); in group I IRI reduction was 3.45 mcU/ml in group II 1.63 mcU/ml (p=0.05). Proinsulin level dropped down in group I by 2.93±3.02, in group II by 1.26±1.1, C-peptide level increased by 1.4±1.6 ng/ml, in group II 0.16±0.1 ng/ml, HOMA-β grew up in group I by 23.4 standard units, in group II by 4.8 standard units (p<0.005). The ratio of proinsulin/insulin dropped down in group I by 0.19±0.7, in group II by 0.02±0.2. There were no significant differences between the groups in the dynamics of HOMA IR and both groups demonstrated positive dynamics. Adiponectin levels were different between the groups, there was an increase by 1.9 ng/ml in group I, in group II by 0.49 ng/ml. (p<0.01). Leptin lowered by 7.37 ng/ml in group I, in group II by 1.21 ng/ml (p<0.01). Also groups showed dramatic difference in anthropometric parameters dynamics (p<0,001). Average weight loss was 4.9±3.2 kg in group I, in group II 2.0±0.94 kg correspondingly. BMI in group I decreased by 1.8±1.3, in group II by 0.68±0.3. WC shortened by 6.5±4.7 sm in group I, in group II by 2.42±1.02 sm. WHR in group I decreased from 0.95±0.06 sm to 0.91±0.05 sm, in group II from 0.94±0.03 sm to 0.93±0.03 sm respectively. Also MRI showed a significant reduction of visceral fat area by 20.6±13.5 sm^2 (7.5%) in group I, compared to group II with 5.7±3.75 sm^2 reduction(1.76%; p<0.01), while in the dynamics of the area of the subcutaneous fat there is no reliable dynamics between groups. Episodes of hypoglycemia have not been registered in any of the groups during the treatment. **Conclusion.** The administration of sitagliptin and metformin decreased glucose toxicity and lipotoxicity that generally led to the improvement of glycemic control.

KEYWORDS: DPP-4 inhibitors, type 2 diabetes mellitus, obesity.

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THE IMPACT OF LOCAL NEGATIVE PRESSURE WOUND THERAPY ON TISSUE REPAIR PROCESSES IN PATIENTS WITH DIABETIC FOOT ULCES

E. Zaitseva, A. Tokmakova, L. Doronina, I. Voronkova, R. Molchkov, G. Galstyan

Endocrinology Research Centre, Moscow, Russia

Aim. To evaluate clinical, histological and immunohistochemical effects of NPWT in comparison to standard management in diabetic foot ulcers (DFUs). **Material and methods.** Clinical examination, transcutaneous oxygen monitoring, ulcer biopsies (haemotoxylin-eosin and immunohistochemistry for CD68 (macrophages), MMP-9 and TIMP-1(proteolytic activity), CD31 (vessels) before and after local treatment. **Results.** 42 patients were enrolled (28 men; 14 women) with DFUs after surgical debridement and divided into 2groups. Group1 (n=21) was treated with NPWT (−90—120 mm Hg), group 2 (n=21) was treated with atraumatic dressings for 9±2 days. The groups matched by DM type, age (group 1 60 (52; 64), group 2 60 (57; 72) years), HbA_{1c} in group1 8.8% (7.4; 10.6%), in group 2 8.8% (7.6; 9.7%), severity of microvascular complications, form of diabetic foot (neuropathic — 41, neuroischemic-1(after revascularization)), wound size (group 1 — 25,0 (16,2; 44,5) cm^2, group 2 — 23.5 (12.3; 55.3) cm^2, wound depth (group 1 — 3,3 (1,5; 6,5) cm, group 2 —3.2 (2.4; 5.2) cm), $tcpO_2$ (group 1 46 (38; 52) mm Hg; group 2 — 43 (38; 47) mm Hg; p>0.05). Histologically both groups presented edema, poorly organized extracellular matrix (ECM), small quantity of fibroblast-like cells and severe inflammation (p>0.05). Immunohistochemically: increased staining of

MMP-9, low TIMP-1 levels were found in both groups (p>0.05). Amount of vessels according to CD31 staining was 43 (19; 62) in group 1 and 58 (30; 95) in group 2. In follow-up period wound size and depth decreased, $tcpO_2$ increased more significantly in group1 (p<0.05). Histological exam showed significant reduction of edema, formation of ECM, high quality of granulation tissue, reduction of inflammation in group1 compared to group 2(p <0.05). Amount of blood vessels increased more than twice, but there was no significant difference between 2 groups (p=0.33). TIMP-1 expression slightly increased and MMP-9 levels decreased more significant in group 1 (p=0.04). The majority patients in group 2 had low quality of granulation tissue and excessive exudation after treatment, which required surgical debridement. **Conclusion.** Histological and immunohistochemical exams confirm more clinical effect of NPWT.

KEYWORDS: diabetic foot ulcers, local negative pressure wound therapy, diabetes mellitus.

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REIFENSTEIN SYNDROME — NEEDS AND POSSIBILITIES OF IMPROVING THE OUTCOMES

E. Mornealo, N. Baltag, V. Munteanu

Medpark International Hospital, Chisinau, Moldova

Introduction. Reifenstein syndrome or Partial Androgen Insensitivity Syndrome PAIS represents a rare form of male hypogonadism, caused by a mutation of gene encoding the androgen receptor, resulting in partial resistance to androgens. In consequence a disorder of sex development appears, in which 46,XY individuals do not virilize normally despite the presence of bilateral testes and serum testosterone concentrations within or above the normal male range. Men have varying degrees of ambiguous external genitalia, hypogonadism, and infertility. As it is primarily rare disease, usually it is only mentioned in professional guidelines, no medical consensus has been reached about the treatment of these patients. We present a case of Reifenstein syndrome treated with high doses of testosterone for 12 months, resulting in improved masculinization and even obtaining sperm by testicular extraction for ICSI. **Case presentation.** A 33-year-old male presented with complaints of infertility and reduced libido. His personal history is remarkable for hypospadias (several surgical corrections have been done, the last one — at the age of 16) and gynecomastia (at the age of 13—14, was solved by surgery). His family history is noticeable — brother and cousin have had hypospadias and gynecomastia. Physical exam revealed high-pitched voice, sparse pubic and axillary hear and absent facial hair, micropenis, testes located in the scrotum, but small in size. Lab test results in December 2015: karyotype 46XY; AZF deletions negative, azoospermia in semen analysis; double increased total testosterone with increased SHBG; LH-16 (with upper normal level of 8.7); FSH on the upper normal level. The diagnosis of Reifenstein syndrome was supposed. Based on some professional articles we decided to try high doses of androgens. In March 2016 the administration of testosterone undecanoate 1000mg/4 weeks (X3 usual doses) was initiated. After 12 months of treatment patient remarked refined libido, development of facial hair, improved quality of life. Lab test revealed normalization of LH level. As patient extremely desires descendants, the mutual agreement for TESA was obtained. During the procedure, on 7th of March, we faced 2 unexpected things: 1) presence of blind vagina (images are available), 2) microsurgical testicular sperm extraction resulted in obtaining mobile spermatozoa, which will be used for intra-cytoplasmic sperm injection. **Conclusion.** Administration of androgens in more masculinized patients with PAIS can improve patient's condition and ameliorate prognosis; this approach should be systematically assessed, to describe more extensively dosage, administration, benefits, as well as adverse effects and recommended follow-up.

KEYWORDS: reifenstein syndrome, hypogonadism, androgens.

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EATING BEHAVIOR IN CONNECTION WITH BODY MASS INDEX IN WOMEN

Iraida Mokhova

Research Institute for experimental and clinical medicine, Novosibirsk, Russia

The European Medical Agency defines obesity as a chronic disease associated with genetic, metabolic, behavioral factors, as well as environmental factors, resulting in increased morbidity and mortality. The etiological factor underlying primary obesity are an absolute or relative prevalence of energy processes (overeating) over processes of energy expenditure. Overeating is usually a result of eating disorders. **Objective.** To explore the features of eating disorders among groups of women according to body mass index. **Material and methods**. The study included 139 women aged 18—61. All participants were divided into three groups according to body mass index (BMI): the first group included women with normal weight (n=21), the 2nd group — women with overweight (n=34), the third one — obese women (n=84). Eating disorders (ED) were evaluated using the Dutch eating DEBQ questionnaire. **Results.** ED were found in all groups. The frequency of different ED was 47% in the first group, in the second group — 55.9%, in the third — 76.2% of cases. The emotiogenic eating behavior was significantly higher in obese women (1.5±0.9 points) compare to normal weight women (1.1±0.7 points; p=0.04) and overweight women (1.1±0.6 points; p=0.02), respectively. Compulsive ED was more frequent among women in the 3rd group (2.25±1.0 points), compared to women in the 1st (1.7±0.7 points; p=0.02) and 2nd groups