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Prikaz slučaja u Specijalnoj bolnici Merkur – efekat promene stila života i savremene medicinske terapije na glikoregulaciju

Case report in Mercury Special Hospital - the effect of lifestyle change and modern medical therapy on glycoregulation

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Apstrakt

Uvod i cilj rada: Diabetes mellitus definiše se kao hronično stanje u kome dolazi do povećanja nivoa glukoze u krvi zbog nemogućnosti organizma da proizvede dovoljnu količinu insulina ili je sposobnost iskorišćavanja insulina neadekvatna. Nedostatak insulina ili nesposobnost ćelija da odgovore na dejstvo insulina dovodi do povećanja nivoa glukoze u krvi, odnosno hiperglikemije, koja predstavlja osnovnu karakteristiku diabetes mellitusa. Prekomerna težina i gojaznost se definišu kao prekomerno nakupljanje masnog tkiva do stepena koji utiče na fizičko i psihosocijalno zdravlje, stanje pojedinca i kvalitet života. Gojaznost se smatra „zdravstvenom katastrofom" u razvijenim i zemljama u razvoju, zbog svoje učestalosti koja je u konstantnom porastu širom sveta. Posledica ove epidemije je, pre svega, razvoj insulinske rezistence i diabetes mellitusa tip 2 u kombinaciji sa faktorima rizika, smanjenom fizičkom aktivnošću i sedenternim načinom života. Većina osoba sa diabetes mellitusom tip 2 imaju prekomernu težinu ili su gojazni, a kod onih koji nisu, često postoji bar povećana količina abdominalnog masnog tkiva. Gojaznost je povezana sa brojnim medicinskim, psihološkim i socijalnim stanjima, od kojih je najopasniji tip 2 diabetes mellitusa. Početkom veka je procenjeno da je broj osoba sa diabetes mellitusom tip 2 oko 171 miliona ljudi, i smatra se da će se taj broj do 2030. godine povećati na 360 miliona. Učestalost diabetes mellitusa tip 2 je od 3 do 7 puta veća kod gojaznih odraslih osoba, u odnosu na osobe sa normalnom telesnom težinom. Odrasle osobe sa indeksom telesne mase >35 kg/m2 su u 20 puta većem riziku za razvoj diabetes mellitusa tip 2 u odnosu na osobe čiji je ITM između 18.5kg/m2 i 24.9kg/m2. Smatra se da za svaki 1 kg povećanja telesne težine postoji 4.5% veći rizik za razvoj dijabetesa. S obzirom na to da višak masnog tkiva predstavlja značajnu prepreku u postizanju dobre glikoregulacije, terapijski pristupi u lečenju diabetes mellitusa, koji istovremeno deluju na kontrolu glikemije i kontrolu telesne težine, predstavljaju poseban izazov u savremenoj medicini.

Prikaz slučaja: Pacijent dolazi na lečenje i edukaciju u Specijalnu bolnicu Merkur. Primenjena je medicinsko nutritivna terapija u kalorijskom unosu 3200 kcal. Makronutritivni odnos je 55% ugljenih hidrata, 15% belančevina, 30% masti. Primenjena je savremena medikamentozna terapija: GLP-1, SGLT2-inhibitori, metformin. Cilj je postizanje dobre glikoregulacije i redukcija telesne težine. Pacijent je praćen 6 meseci, od aprila do oktobra 2019. godine.

Rezultati: Pacijent MD, životne dobi 55 godina, ugostitelj, pušač, diabetes mellitus unazad 5 godina na terapiji metforminom 2g.

Abstract

Introduction and aims of the work: Diabetes mellitus is defined as a chronic condition in which there is an increase in blood glucose levels due to the inability of the body to produce a sufficient amount of insulin or the ability to use insulin is inadequate. Lack of insulin or inability of cells to respond to the action of insulin leads to an increase in blood glucose levels, which is hyperglycemia, which is the basic characteristic of diabetes mellitus. Overweight and obesity are defined as excessive accumulation of adipose tissue to the extent that it affects physical and psychosocial health, an individual's condition, and quality of life. Obesity is considered a "health catastrophe" in developed and developing countries because of its constant increase worldwide. The consequence of this epidemic is primarily the development of insulin resistance and type 2 diabetes mellitus in combination with risk factors, reduced physical activity, and a sedentary lifestyle. Most people with type 2 diabetes mellitus are overweight or obese, and those who do not often have at least an increased amount of abdominal fat. Obesity is associated with a number of medical, psychological, and social conditions, the most dangerous of which is type 2 diabetes mellitus.

At the beginning of the century, it was estimated that the number of people with type 2 diabetes mellitus is around 171 million people, and it is estimated that this number will increase to 360 million by 2030. The incidence of type 2 diabetes mellitus is 3 to 7 times higher in obese adults compared to people with normal body weight. Adults with a body mass index> 35 kg / m2 are 20 times more likely to develop type 2 diabetes mellitus than individuals with a BMI between 18.5kg / m2 and 24.9kg / m2. It is believed that for every 1 kg of weight gain, there is a 4.5% higher risk of developing diabetes. Since excess adipose tissue is a significant obstacle to achieving good glycoregulation, therapeutic approaches in the treatment of diabetes mellitus, which simultaneously act on glycemic control and weight control, represent a special challenge in modern medicine.

Case report: The patient comes for treatment and education at a Special hospital "Merkur". Medical nutritional therapy was applied in a caloric intake of 3200 kcal. The macronutrient ratio is 55% carbohydrates, 15% protein, 30% fat. Modern drug therapy was applied: GLP-1, SGLT2-inhibitors, metformin. The goal is to achieve good glycoregulation and weight reduction. The patient was followed for 6 months from April to October 2019.

Results: Patient MD aged 55 years, caterer, smoker, diabetes mellitus back 5 years on metformin 2g therapy. Associated diseases hypertension, hyperlipidemia, obesity TT 153kg, TV-

Pridružena oboljenja hipertenzija, hiperlipidemija, gojaznost TT 153kg, TV-176cm, BMI-49,4kg/m2, procenat masti u telu 40%,(61kg), OS-155cm. Profil glikemija: od 16-22,1mmol/L, HbA1c-11,7%, hol-4,6mmol/L, tg-4,18mmol/L, kreatinin-81μmol/L, eGFR-94ml/min, ALT-50U/L, AST-52U/L, Hgb-151g/L, Er-4,71x1012, Le-7,65x109, TSH-2,7, fT4-11,6, fT3-5,78. Na prvom pregledu uvedena terapija metformin 2g, dapaglizofin 10mg, liraglutid 1,8mg, eosuvastatin 10mg, fenofibrat 160mg i dijeta 3200kcal. Drugi pregled nakon 3 meseca: TT-123,5kg, BMI-39,9kg/m2, procenat masti 36,6%, (45,2 kg), HbA1c-7,8%, glikemije u profilu od 6,7 od 9,5 mmol/L, AST-20U/L, ALT-25U/L, kreatinin-73μmol/L, eGFR-99ml/min, thol-3,88mmol/L, tg-1,65mmol/L, Le-8,6x109, Er-4,45x1012, Hgb-133g/L. Nastavljen isti model lečenja. Treća kontrola nakon 6 meseci: TT-113,5 kg, BMI-36,6 kg/m2, procenat masti 35,8% (40,6kg), HbA1c-5%, glikemije u profilu od 4,6 do 7,5 mmol/L, kreatinin-70μmol/L,e GFR-101ml/min, Le-7,9x109, Er-4,62x1012, Hgb-140g/L, t hol-4,5mmol/L, tg-1,01mmol/L, AST-23U/L, ALT-29U/L. Sve vreme praćenja pacijent bez registrovanih hipoglikemija, bez promena u parametrima krvne slike.

Zaključak: Primenom savremene terapije i promenom stila života dolazi se do redukcije telesne težine 6,5 kg prosečno mesečno na račun masti u telu, uz postizanje optimalne glikoregulacije.

176cm, BMI-49.4kg / m2, body fat percentage 40%, (61kg), OS-155cm. Glycemic profile: from 16-22.1mmol / L, HbA1c-11.7%, chol-4.6mmol / L, tg-4.18mmol / L, creatinine -81μmol / L, eGFR-94ml / min, ALT-50U / L, AST-52U / L, Hgb-151g / L, Er-4.71x1012, Le-7.65x109, TSH-2.7, fT4-11.6, fT3-5.78. Metformin 2g, dapaglizofin 10mg, liraglutide 1.8mg, eosuvastatin 10mg, fenofibrate 160mg and diet 3200kcal were introduced at the first examination. Second examination after 3 months: TT-123.5kg, BMI-39.9kg / m2, fat percentage 36.6 %, (45.2 kg), HbA1c-7.8%, glycemia in the profile of 6.7 of 9.5 mmol / L, AST-20U / L, ALT-25U / L, creatinine-73μmol / L, eGFR -99ml / min, thol-3.88mmol / L, tg-1.65mmol / L, Le-8.6x109, Er-4.45x1012, Hgb-133g / L. The same treatment model was continued. Third control after 6 months: TT-113.5 kg, BMI-36.6 kg / m2, fat percentage 35.8% (40.6 kg), HbA1c-5%, glycemia in the profile of 4, 6 to 7.5 mmol / L, creatinine-70μmol / L, e GFR-101ml / min, Le-7.9x109, Er-4.62x1012, Hgb-140g / L, t hol-4.5mmol / L, tg -1.01mmol / L, AST-23U / L, ALT-29U / L. All the time the patient was monitored without registered hypoglycemia, without changes in the parameters of the blood count.

Conclusion: With the application of modern therapy and lifestyle changes, there is a reduction of body weight of 6.5 kg on average per month at the expense of body fat with the achievement of optimal glycoregulation.