

Metabolic control in patients with 1 diabetes mellitus associated with depression

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The aim The assessment of glycemic control and concentration of lipids in the blood in patients with type 1 diabetes mellitus (DM-1), depending on the presence of depression (DP).

Introduction The most common mental disorder among patients with DM-1 is DP. Despite a rather large number of papers about the problem of combining DM and DP, the data of prevalence DP in DM type 1 are differ.

Methods

There were examined 163 patients with DM-1. To assess severity of DP there was used Hospital Anxiety and Depression Scale (HADS). There were determined the level of fasting blood glucose (BG), BG level in 2 hours after a meal, the average daily BG level for 3 days and HbA_{1C} level. Also there were determined the total amount of cholesterol (TC), triglycerides (TG), high density lipoprotein cholesterol (HDL-C). The amount of low-density lipoprotein cholesterol (LDL-C) and the amount of very low-density lipoprotein cholesterol (VLDL-C) were determined by calculation.

Characteristics of the patients of the study group (Table 1).

Table 1.

PARAMETER (n=163)	Me [25;75]
Age, years	40,07 [30,44; 48,79]
Duration of diabetes, years	11,17 [9,07;12,26]
Sex m/w	57,1% / 42,9%

Results There has been established a positive correlative relationship between the level of DP according to the HADS scale and HbA_{1C} level ($r = 0.20$; $p < 0.05$), as well as between the level of DP according to the HADS scale and the level of the mean daily BG ($r = 0.22$; $p < 0.05$). Development of DP at DM-1 is associated with the level of HbA_{1C} 7.5% or more (OR = 0.89; $p = 0.03$; 95% CI 0.30-1.48). The results of evaluation of biochemical parameters characterizing lipid metabolism according to the presence of DP indicate, that the level of TC in patients with DP was higher than in patients without DP (5.10 mmol/L versus 4.80 mmol/L; $p = 0.04$). There has also been determined that the level of LDL-C was 3.10 mmol/L in patients with DP versus 2.65 mmol/L in patients without DP and exceeded by 14.5% the value of comparison group ($p = 0.05$).

Conclusion. The risk of development of DP in

DM-1 is associated with decompensation of carbohydrate metabolism and dyslipidemia.

Results

Assessment of monitoring indicators of carbohydrate and lipid metabolism in patients with type

1 DM depending on the presence of DP, Me [25; 75] (Table 2).

Table 2.

PARAMETER	DM and DP, (n=46)	DM without DP, (n=117)	U	P
HbA _{1C} , %	9,70 [8,20; 10,70]	8,40 [7,60; 9,60]	1807,50	<0,001
The average daily BG level for 3 days, mmol/L	9,02 [7,70; 10,48]	8,10 [6,35; 10,15]	1715,00	0,03
The level of fasting blood glucose (BG), mmol/L	8,75 [7,50; 11,60]	8,00 [6,20; 10,90]	2226,50	0,10
BG level in 2 hours after a meal, mmol/L	9,85 [8,30; 13,50]	9,20 [6,95; 12,30]	2200,50	0,08
The total amount of cholesterol (TC), mmol/L	5,10 [4,50; 5,90]	4,80 [4,10; 5,60]	2103,50	0,04
The amount of very low-density lipoprotein cholesterol (VLDL-C), mmol/L	0,44 [0,36; 0,65]	0,49 [0,35; 0,72]	2182,50	0,59
The amount of low-density lipoprotein cholesterol (LDL-C), mmol/L	3,10 [2,05; 3,67]	2,65 [1,84; 3,21]	1840,00	0,05
The amount of high density lipoprotein cholesterol (HDL-C), mmol/L	1,60 [1,30; 2,00]	1,60 [1,37; 2,00]	2163,50	0,54
Triglycerides (TG), mmol/L	1,12 [0,87; 1,65]	1,10 [0,79; 1,62]	2521,00	0,86

