AVERAGE TRIGLYCERIDE LEVELS IN DIFFERENT CATEGORIES OF HYPERGLYCEMIA

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Abstract: This report presents the results of a study on the intricate relationship between triglyceride levels and diabetes. Specifically, the study focused on patients with type 2 diabetes mellitus and individuals with impaired glucose tolerance. A representative sample of the unorganized male population aged 40-69 years was examined, totalling 894 individuals. The study, which included a standard oral glucose tolerance test, revealed a positive association between triglyceride levels in the blood and both type 2 diabetes mellitus and impaired glucose tolerance. However, the nature of this relationship is not straightforward. The study showed that triglyceride levels are associated with type 2 diabetes mellitus and a violation of the vagoinsular phase of the glycemic curve, while no such relationship was observed with the sympathoadrenal phase.

Keywords: triglycerides, type 2 diabetes mellitus, impaired glucose tolerance, sympathoadrenal phase, vagoinsular phase.

Relevance. The main risk factors for cardiovascular diseases (CVD) include dyslipidemia and hyperglycemia [1]. In order to implement effective prevention and treatment of CVD, it is necessary to clearly understand the mechanisms of mutual influence between these factors [2]. The presence of hyperglycemia contributes to an increase in the negative effect of dyslipidemia and other risk factors on the pathogenesis of CVD. As a result, the risk of death from CVD increases [3,4]. However, hyperglycemia can occur in various forms: diabetes mellitus, impaired fasting glycemia, and impaired glucose tolerance after sugar loading (IGT). It should be noted that after loading with glucose, it is important to study both glycemia after one hour and hyperglycemia after two hours [5]. This is due to the fact that the glucose level one hour after the sugar load reflects the sympathoadrenal phase of the glycemic curve, and by the level of glycemia after two hours, it is possible to judge the vagoinsular activity of the body. In this regard, this report provides information on triglyceride levels in various categories of hyperglycemia.

The purpose of the study was to study the average triglyceride levels in individuals with different categories of glycemia.

Material and methods. A population approach was adopted, examining a representative sample of the unorganized male population. Eight hundred ninety-four men aged 30 to 69 years were selected. Triglycerides were analyzed in venous blood using a HITACHI-902 Roche biochemical analyzer. Glycemic levels were assessed through a standard glucose tolerance test. The criteria of the American Diabetes Association were utilized to identify type 2 diabetes mellitus (DM-2) and impaired glucose tolerance (IGT) [4]. Statistical processing was conducted using the programs MedCalc' and Microsoft Excel-16.

The results of the study. The study showed (Fig.) that the average values of triglycerides have higher values in patients with DM-2. In the group of individuals who had hyperglycemia, both one and two hours after glucose loading, the average triglyceride levels were slightly lower than in DM-2. At the same time, among patients who had only hyperglycemia two hours after glucose loading, triglyceride levels were higher than in violation of both phases of the glycemic curve.

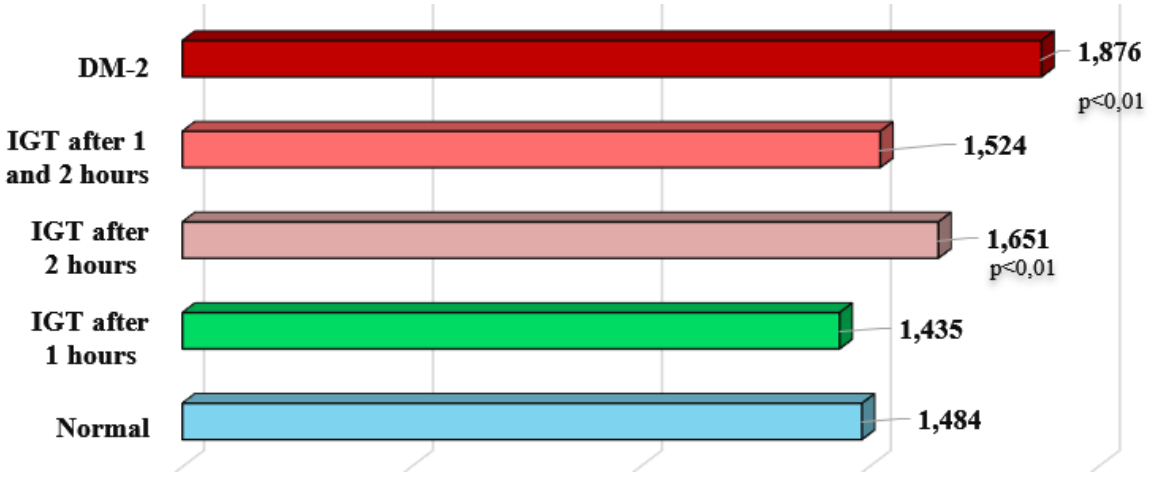

Figure. Average triglyceride values (mmol/l) for various categories of hyperglycemia.

Note: The figure shows the reliability of the differences in the indicators of this group relative to the group with normal glucose tolerance.

Attention should be paid to the following fact: the lowest triglyceride levels were found in patients with HTG one hour after glucose loading. The average triglyceride levels in this group turned out to be lower than in the group

of people with normal glucose tolerance (the revealed differences were not statistically significant).

Conclusions

1. Triglyceride levels are associated to a certain extent with various categories of hyperglycemia. However, this relationship is ambiguous. The content of triglycerides in the blood is more associated with DM-2 and with a violation of the vagoinsular phase of the glycemic curve. There was no association between triglyceride levels and a violation of the sympathoadrenal phase of the glycemic curve.
2. The results obtained indicate the expediency of timely primary prevention of hypertriglyceridemia in patients with DM-2 and violation of the vagoinsular phase of the glycemic curve.

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