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Cardiovascular risk in patients with newly diagnosed type 2 diabetes mellitus

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ABSTRACT

Type 2 diabetes mellitus (DM2) is one of the main risk factors for cardiovascular diseases (CVD), which occupy leading positions among the causes of morbidity and mortality among patients with this diagnosis. It is now established that the presence of DM2 increases the likelihood of coronary heart disease, stroke, chronic heart failure and other vascular complications. At the time of initial diagnosis, most patients may already have vascular changes, which emphasises the importance of early diagnosis and cardiovascular risk assessment. The main pathophysiological mechanisms affecting the vascular system, such as impaired carbohydrate metabolism, arterial hypertension, dyslipidaemia and inflammation, are reviewed. The study emphasises the need for a comprehensive approach to the management of patients with DM2, including not only blood glucose control but also the management of other cardiovascular risk factors such as arterial hypertension, obesity and dyslipidaemia. Effective therapy aimed at reducing cardiovascular risks can significantly reduce morbidity and mortality in patients with type 2 diabetes mellitus. Collectively, understanding and proper assessment of cardiovascular risk in patients with newly diagnosed type 2 diabetes mellitus is an important goal to reduce cardiovascular morbidity and mortality in this patient group.

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Yangi tashxis qilingan 2-tur qandli diabet bemorlarida yurak-qon tomir xatari

Kalit so‘zlar:
2-tur qandli diabet, yurak-qon tomir xatari, yurak ishemik kasalligi, arterial gipertenziya.

ANNOTATSIYA

2-tur qandli diabet (QD2) yurak-qon tomir kasalliklarining (YQTK) asosiy xavf omillaridan biri bo‘lib, ushbu tashxis qo‘yilgan bemorlar orasida kasallanish va o‘limning yetakchi sabablaridan hisoblanadi. Aniqlanishicha, QD2 mavjudligi yurak ishemik kasalligi, insult, surunkali yurak yetishmovchiligi va boshqa qon tomir asoratlari rivojlanish ehtimolini oshiradi. Dastlabki tashxis qo‘yilgan vaqtda bemorlarning aksariyatida allaqachon qon tomir o‘zgarishlari bo‘lishi mumkin, bu esa erta tashxis qo‘yish va yurak-qon tomir xavfini baholashning muhimligini ko‘rsatadi. Qon tomir tizimiga ta’sir etuvchi asosiy patofiziologik mexanizmlar, jumladan uglevod almashinuvi buzilishi, arterial gipertenziya, dislipidemiya va yallig‘lanish ko‘rib chiqiladi. Tadqiqotda QD2 bilan kasallangan bemorlarni davolashda kompleks yondashuv zarurligi ta’kidlanadi: nafaqat qondagi glyukoza miqdorini nazorat qilish, balki arterial gipertenziya, semizlik va dislipidemiyaga o‘xshash boshqa yurak-qon tomir xavf omillarini ham boshqarish muhim. Yurak-qon tomir xatarlarini kamaytirishga qaratilgan samarali terapiya 2-tur qandli diabet bemorlarida kasallanish va o‘limni sezilarli darajada kamaytirishi mumkin. Umuman olganda, yangi tashxis qo‘yilgan QD2 bemorlarida yurak-qon tomir xatarini tushunish va to‘g‘ri baholash ushbu guruhda kasallanish va o‘limni kamaytirishning muhim vazifasidir.

Сердечно-сосудистый риск у пациентов с впервые выявленным сахарным диабетом 2 типа

Ключевые слова:
сахарный диабет 2 типа, сердечно-сосудистый риск, ишемическая болезнь сердца, артериальная гипертензия.

АННОТАЦИЯ

Сахарный диабет 2 типа (СД2) является одним из основных факторов риска сердечно-сосудистых заболеваний (ССЗ), которые занимают ведущие позиции среди причин заболеваемости и смертности у пациентов с данным диагнозом. Установлено, что наличие СД2 повышает вероятность развития ишемической болезни сердца, инсульта, хронической сердечной недостаточности и других сосудистых осложнений. На момент первичной диагностики у большинства пациентов уже могут присутствовать сосудистые изменения, что подчеркивает важность ранней диагностики и оценки сердечно-сосудистого риска. Рассматриваются основные патофизиологические механизмы, влияющие на сосудистую систему, такие как нарушение углеводного обмена, артериальная гипертензия, дислипидемия и воспаление. В исследовании подчеркивается

необходимость комплексного подхода к ведению пациентов с СД2, включающего не только контроль уровня глюкозы крови, но и коррекцию других факторов сердечно-сосудистого риска, таких как артериальная гипертензия, ожирение и дислипидемия. Эффективная терапия, направленная на снижение сердечно-сосудистых рисков, может существенно уменьшить заболеваемость и смертность у пациентов с сахарным диабетом 2 типа. В целом, понимание и правильная оценка сердечно-сосудистого риска у пациентов с впервые выявленным СД2 является важной задачей для снижения сердечно-сосудистой заболеваемости и смертности в этой группе пациентов.

INTRODUCTION

The aim of the research is to analyse cardiovascular risk in patients with newly diagnosed type 2 diabetes mellitus, as well as factors contributing to its development.

METHODS

This study was a screening programme involving data collection for the detection of carbohydrate metabolism disorders in patients in the Samarkand region. Patients ≥40 years of age, newly diagnosed with type 2 diabetes mellitus, attending an outpatient appointment with an endocrinologist and having one or more of the following conditions were included in the study:

- Grade I-III arterial hypertension (AH);
- and/or CHD (stable angina I-IV functional class (verified), myocardial infarction, percutaneous coronary intervention, coronary bypass surgery in the history);
- and/or coronary atherosclerosis (objective evidence (coronary angiography) of coronary artery disease ≥50%);
- and/or a history of acute cerebral circulatory failure;
- and/or verified atherosclerotic lesion of peripheral arteries;
- and/or history of lower limb arterial revascularisation or leg amputation due to atherosclerotic arterial lesions.

The present study investigated anthropometrics, family history, CVD and DM2, as well as blood pressure levels and blood biochemical parameters in the patients. The diagnosis of DM was made based on glucose and glycated haemoglobin levels and glucose tolerance test results. Analysis of the results showed an association between demographic characteristics, cardiovascular diagnosis, family history, lipid profile and glycaemic parameters, and exercise test results. Analyses were performed using the SAS statistical system. Overall, the study aims to investigate the factors associated with the development of DM and their impact on the patients' condition.

RESULTS

A total of 101 patients were included in the study. Demographic characteristics and prevalence of DM2 did not differ between males and females. A family history of DM2 was present in 7.5% of males and 14.2% of females, and a history of SWD was recorded in 35.5% of males and 34.3% of females. 4.2% of males and 3.1% of females had a history of SWD by screening. The prevalence of DM2 in patients with SWD was assessed using three criteria: fasting venous plasma glucose, glycated haemoglobin, and GGTT. However, due to

the peculiarities of routine clinical practice, HbA1c levels were measured in only 53.2% of patients, and GGTT was performed in 37.6% of patients. The study distinguished groups of patients without impaired carbohydrate metabolism, with impaired fasting glycaemia, with impaired glucose tolerance and with newly diagnosed DM2. Among patients with PGTT, HbA1c levels were determined in 78.2% of cases (28 individuals without carbohydrate metabolism disorders; 9 with NGN, 65 with NTG, and 27 with DM). The distribution of HbA1c levels among patients with PHPTT results is given. It is noteworthy that in the NGN and DM2 groups, HbA1c was measured in 34% and 59% of cases, respectively, making the results difficult to interpret

CONCLUSIONS

First diagnosed DM2 is a dangerous disease that can lead to cardiovascular problems. The study found that males with high BMI, increased waist circumference, high BP, and triglyceride levels have the highest risk of developing DM2. In the study, which was conducted on patients at high risk of developing DM2 (i.e., who had a history of CVD), the prevalence of undiagnosed DM2 ranged from 8 to 13.99%. Thus, it was found that the prevalence of undiagnosed DM2 was higher among patients with high BP. This study emphasises the need for active screening for DM in patients with cardiovascular problems.

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