

DIABETES DISEASE CARDIOVASCULAR COMING WITH ILLNESSES

O'ktamova Ruxsora O'tkirjon qizi

Bukhara State Medical Institute, Named Abu Ali ibn Sino, Republic of Uzbekistan,
Bukhara

Abstract:

Today, cardiovascular diseases are worldwide the most common group of diseases that people suffer from.

Despite the fact that this field of medicine is developing more and more, these diseases are getting younger every year. It should also be mentioned that the treatment of these cardiovascular diseases is much more difficult and sometimes complicated in patients with concomitant diseases

Keywords: *STD, diabetes, hypertension, targeted screening, hypoglycemia.*

Introduction

Cardiovascular disease is one of the urgent problems of our time development of measures to treat patients and, of course, to prevent diseases. Currently, cardiovascular disease (CVD) is one of the main causes of death and disability of the population worldwide.

More specifically, 34% of deaths on earth are caused by cardiovascular diseases. In our country, 53% of deaths among the population aged 30-70 are still caused by cardiovascular diseases. In the last 5 years, despite the fact that many new projects are being conducted in this area, the number of patients with CKD has increased by 20%, even among young people. This is an indicator of strengthening preventive measures in this area, in addition to new complex treatment plans

shows that it is necessary. Our head of state Shavkat Mirziyoyev, from 2022, citizens over 40 years of age will undergo address screening at least once a year

notifying that it will be held, separately in the field of cardiovascular diseases
they stopped. {1}

This is not the only cause of death in patients with cardiovascular disease late detection of the disease, but the presence of concomitant diseases is considered Thinning of blood vessels in patients with diabetes complicates operative treatment, it is found to be more common in patients with pathological obesity (63%) and after 50 years of age. In diabetics, the pre-cardiac areas are covered with fatty tissue, and the presence of lipids in the intima of blood vessels increases the risk of the disease. According to the analysis of the literature, 80 patients with type II diabetes underwent clinical, laboratory and instrumental examination, and it was found that 49 patients (61.25%) had cardiovascular disease. Among them, 34 (69.4%) had hypertension, 13 (26.5%) had ischemic heart disease, 2 (4.1%) had heart defects, rheumatism. {2}

Diabetes and cardiovascular diseases (CVDs) are increasing in epidemic proportions globally, with the most marked increase in emerging economies. Among emerging economies, China and India have the highest numbers of people with diabetes and CVD. Over the last two decades, 80% of CVD and diabetes mortality occurred in low- and middle-income countries, suggesting that these disorders have become a leading threat to public health in most of the developing countries. The burden of CVD and diabetes in the developing countries affects the productive younger age group, and this has serious economic implications. Diabetes shares many characteristics and risk factors with CVD, and thus the risk for CVD also escalates with the increase in prevalence of diabetes. Both genetic and environmental factors play a major role in causation of diabetes and CVD. {3}

According to the Framingham study, with the combination of hypertension and diabetes, severe cardiovascular complications are observed 5 times more often, the death rate from cardiovascular complications is 2.5-7.2 times higher, and clinical signs of nephropathy appear. , it is 37 times higher. in comparable age groups of the general population. Cardiovascular risk classification system in hypertensive patients with diabetes the presence of diabetes makes it possible to classify them as a very high-risk group [4].

High blood pressure in people with diabetes observed 2 times more often than in patients with other diagnoses. According to different authors, the frequency of detection of hypertension in patients with diabetes ranges from 16.5 to 75% [4].

Etiology and pathogenesis

The most common causes of hypertension in type 1 diabetes are:

1. Diabetic nephropathy - 80%.
2. Essential hypertension (systolic and diastolic) - 10%.
3. Isolated systolic hypertension - 5 - 10%.
4. Other endocrine pathologies - 1 - 3%.

The main reasons for the development of hypertension in type 2 diabetes

1. Hypertension - 30 - 35%.
2. Isolated systolic hypertension - 40 - 45%.
3. Diabetic nephropathy - 15 - 20%.
4. Renovascular hypertension and ischemic kidney disease - 5-10%.
5. Other endocrine pathologies - 1 - 3%.

That is, the main reason for the development of hypertension in type 1 diabetes diabetic kidney disease, type 2 diabetes - hypertension and isolated systolic hypertension [5].

Hypertension in diabetes is caused by alcohol abuse or certain medications that increase blood pressure glucocorticoids, can also appear as a result of taking contraceptives.

The pathogenesis of many forms of arterial hypertension is based on insulin resistance - a violation of the body's response to endogenous or exogenous insulin. As a result, glucose consumption by peripheral tissues decreases. This condition is common in people with excess body weight and may not manifest itself clearly until the onset of metabolic diseases. When BMI (ideal body weight) exceeds 35-40%, insulin sensitivity decreases by 40%. At the ionic level, insulin affects the flow of calcium and sodium into the cell, which affects the contractility of vascular smooth muscle fibers. Calcium influx into the cell as a result of decreased insulin sensitivity increases and the tension of smooth muscle cells increases. In such patients, the response of the coronary arteries to physiological stimuli decreases (the ability to expand decreases), which leads to microcirculation disorders. {6}

Arterial hypertension is a risk for the development of type 2 diabetes one of the factors, which can cause this disease in 40% of cases and significantly increase their number, together with excess body weight, lipid metabolism disorders and carbohydrate intolerance. Cardiovascular and kidney diseases. If you influence risk factors and follow healthy lifestyle recommendations, you can prevent the development of complications of these two dangerous diseases: normalize body weight, limit salt to 3 g per day, stop smoking, pay attention to physical exercise give (prompt). walking - 30 minutes a day, swimming - up to 1 hour 3 times a week), its regular implementation has a beneficial effect on insulin sensitivity, blood pressure level and lipid metabolism. However, be aware that excessive exercise, especially when combined with alcohol consumption, can increase the risk of hypoglycemia (low blood sugar). {7}

The subject of diabetes mellitus as a comorbid disease that frequently confounds hypertension, adding significantly to its overall morbidity and mortality,^{1 2} will be updated in the present review. Among the complications of diabetes, cardiovascular and renal vascular diseases are among the most costly in terms of human suffering and national healthcare costs. Over the past several years, since the publication of these foregoing reviews, a number of controlled multicenter clinical trials have demonstrated the safety and efficacy of specific antihypertensive therapeutic programs that can significantly alter the outcomes of these cardiovascular and renal complications. The present report summarizes these advances as well as newer fundamental findings that add importantly to our overall knowledge of the cardiovascular complications of diabetes mellitus. {8}

Unlike classical microvascular complications, large-vessel atherosclerosis can precede the development of diabetes, suggesting that rather than atherosclerosis being a complication of diabetes, both conditions have common genetic and environmental antecedents, i.e., they spring from a "common soil." It is now known that adverse environmental conditions, perhaps related to less-than-optimal nutrition, in fetal and early life are associated with an enhanced risk of both diabetes and cardiovascular disease many decades later. These same adverse environmental conditions are also associated with the development in adult life of abdominal obesity and the insulin-resistance syndrome (IRS). The IRS consists of glucose intolerance, hyperinsulinemia, dyslipidemia (high triglyceride and low high-density lipoprotein [HDL] cholesterol levels), and hypertension. Although the mechanism underlying this cluster is controversial, the statistical association is well established. All of the elements of the IRS have been documented as risk factors for type II diabetes. Some, but not all, of these elements are also cardiovascular disease risk factors, in particular, hypertension and low HDL cholesterol. Other factors associated with the IRS that may enhance cardiovascular disease risk are plasminogen activator inhibitor 1 and small, dense low-density lipoprotein particles. Whether insulin itself is a risk factor remains controversial, but recent epidemiological evidence has been mostly negative. This question has marked clinical relevance because if the IRS enhances cardiovascular disease risk by virtue of its concomitant factors and not the hyperinsulinemia per se, this would tend to alleviate concerns that intensive insulin management of type II diabetic subjects could enhance the risk of large-vessel atherosclerosis. Clinical trials are urgently needed to settle this point. {9}

Unfortunately the criteria for ischemic (also called coronary) heart disease have been less well standardized and still vary from study to study. Further, the most definitive diagnostic methods, such as coronary angiography, are too invasive for population-based studies. Use of history and clinical records is not entirely satisfactory because silent myocardial ischemia or infarction, based on the electrocardiogram, is more common in diabetic persons than in nondiabetic persons^{6,7}. The limitations of death certificates are well known. For example, among known diabetic subjects with suspected ischemic heart disease in one study⁸, only 41% of death certificates listed diabetes. In a review of 15 other studies of known diabetic individuals⁸, 32%-92% of death certificates listed diabetes. Clinical studies of patients with diabetes usually have the advantages of multiple and more invasive diagnostic tests but suffer from the bias that only symptomatic patients are selected for such investigations; these patients may have more severe disease or symptoms than the general patient population. Clinic populations are prone to selection bias, in that diabetic clinics attract patients with more severe diabetes and cardiology clinics attract those with more severe heart disease. Prevalence studies suffer from survivor bias by excluding subjects with diabetes who have already died due to heart disease. Unless there has been screening of the population for both heart disease and diabetes, prevalence studies are also subject to ascertainment bias because diabetes may be more often sought in persons with heart disease and vice versa.^{10}

Summary. Cardiovascular disease and diabetes is one of the most common diseases today. The level of danger increases up to 5 times when they meet together, and the risk of death increases by 2-3 times. When these two diseases come together, there is a high probability that patients will have many complications during treatment. It is necessary to use complex treatment plans.

References

1. Wikipedia -cardiovascular diseases.
2. Fazliddinov J.Z., Islamov K.A. - "Clinical course characteristics of diseases of the cardiovascular system against the background of diabetes" - Methodological Journal of Interpretation and Research
3. Rajendra Pradeepa, Dorairaj Prabhakaran, Viswanathan Mohan - Emerging Economies and Diabetes and Cardiovascular Disease - Diabetes Technology & Therapeutics <https://doi.org/10.1089/dia.2012.0065>
4. Sharipov R.A- Arterial hypertension and diabetes mellitus. Moscow
5. Balkau b., Eschwege E. Insulin resistance: an independent risk factor for cardiovascular? // Diab. Obese. Metab. — 1999.. — No. 1 (Suppl. 1). — P. 23-31
6. Microlife partner for people. For life
7. Ismailov S.I., Yafasov K.M., Sirozhiddinova N.Z. Therapy for arterial hypertension in patients with type 2 diabetes mellitus. Problems of Endocrinology. 2003;49(2):17-22. (In Russ.) <https://doi.org/10.14341/probl11526>
8. James R.Sowers, Murray Epstein, Edward D Frohlich - Diabetes, Hypertension, and Cardiovascular Disease : An Update – Hypertension Volume 37, Number 4
9. Michael P. Stern – “Diabetes and Cardiovascular Disease The "Common Soil" Hypothesis” - Diabetes
10. Diabetes Deborah L. Wingard, PhD, and Elizabeth Barrett-Connor, MD - Heart Disease and Diabetes