IMPROVEMENT OF METHODS OF DIAGNOSTIC AND TREATMENT OF DIABETIC RETINOPATHY

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Abstract. *Diabetic retinopathy - complications lead to damage to retinal vessels and the development of microaneurysms, as well as the proliferation of newly formed vessels in the fundus of the eye. The problem of early diagnosis and treatment of diabetic retinopathy remains one of the urgent problems of modern ophthalmology, which is associated with the late presentation of patients with diabetic retinopathy.*

Keywords: *diabetes mellitus, diabetic retinopathy, fundus of the eye.*

СОВЕРШЕНСТВОВАНИЕ МЕТОДОВ ДИАГНОСТИКИ И ЛЕЧЕНИЯ ДИАБЕТИЧЕСКОЙ РЕТИНОПАТИИ

Аннотация. *Диабетическая ретинопатия - осложнения приводят к поражению сосудов сетчатки и развитию микроаневризм, а также пролиферации новообразованных сосудов на глазном дне. Проблема ранней диагностики и лечения диабетической ретинопатии остается одной из актуальных проблем современной офтальмологии, что связано с поздним обращением пациентов с диабетической ретинопатией.*

Ключевые слова: *сахарный диабет, диабетическая ретинопатия, глазное дно.*

Prevention of diabetic retinopathy is one of the urgent problems of domestic and foreign healthcare, which is accompanied by a constant increase in the prevalence of diabetes mellitus among the population, which ultimately leads to vision loss and social deprivation. The social importance and relevance of the problem of early diagnosis of diabetic retinopathy (DR) is to prevent disability and blindness in people of working age with diabetes and improve their quality of life. As a result of studying the prevalence of DR among the population of developing countries, it was shown that the prevalence of DR in people with known diabetes mellitus ranges from 10% to 61% and in newly diagnosed diabetes from 1.5 to 31%. A comparative analysis of the prevalence of diabetic maculopathy (DM) and DR in the UK from 2007 to 2010. It was shown that there were 76,127 patients with DM with non-proliferative DR in 59.6-67.3% of cases and proliferative DR in 18.3-20.9%. Clinically significant macular edema was present in 15.8-18.1% of cases. Currently, there are 5 million blind people and 180 million visually impaired people in the world. It is estimated that by 2030 the number of blind people will increase by 27%, and the number of people with low vision by 45%.

Diabetic retinopathy (DR) was first described 100 years ago in 1879 by Kenzi.M, but even today this complication of diabetes is a major health problem.

Despite the widespread introduction of new effective drugs and instrumental methods for diagnosis and treatment, DR still remains the main cause of vision loss. Different figures are given for the prevalence of DR in type 1 and type 2 diabetes mellitus in different countries. In patients with undiagnosed type 2 diabetes, symptoms of DR are detected at the time of diagnosis in 7-30% of patients. Moreover, unlike DM, proliferative DR is not a major problem for them, while diabetic maculopathy is the main cause of visual acuity deterioration. The age of patients with diabetes mellitus (DM) can be considered as a risk factor. It is known that DR is extremely rare in childhood. However, with the onset of puberty, microvascular complications, including the rapid development of diabetic retinopathy, are observed. This is due to the fact that during this period a strong hormonal restructuring occurs, which is accompanied by the production of a large number of counterinsulin factors - tropic hormones of the pituitary gland, sex steroids, growth factors. The decompensation of DM that develops in this case can be explained by a rapid increase in body weight and, as a result, an increase in the need for insulin. The period of puberty is considered the most dangerous in terms of the development of DR. It should be remembered that the organization of a clear system of detection and treatment of diabetic retinopathy should lead to a reduction in the risk of blindness, which, among other things, is manifested in a significant economic effect.

Suffice it to say that the annual costs of treating one patient with diabetic retinopathy (laser) are almost 12 times less than state social costs (pensions). Thus, the organization of an affordable system of treatment of retinopathy by laser methods will be economically beneficial, taking into account the material costs of paying disability benefits paid by the state, as well as direct losses due to the inability to participate in the production of a large number of people of working age who have low vision and are blind due to diabetic retinopathy. Of course, in material terms it is impossible to take into account the moral losses from human suffering.

However, it should be noted that there are various potential obstacles to the prevention of complications of diabetes.

Thus, according to WHO, the main obstacles to the highly effective prevention of blindness due to diabetic retinopathy are:

- lack of information about diabetic retinopathy and its consequences among diabetic patients;

- lack of understanding among primary care physicians about the manifestations of diabetic retinopathy that are dangerous for vision, since it is often asymptomatic;

- lack of understanding of the effectiveness of treatment using laser coagulation;

- lack of necessary ophthalmoscopic skills among primary care physicians;

- lack of laser devices for the treatment of diabetic retinopathy;

- lack of experienced ophthalmologists specializing in the treatment of diabetic retinopathy.

Therefore, even in countries where retinopathy screening and dynamic monitoring programs for patients with diabetes have long been in place, less than half of patients in need of ophthalmological examination seek advice, and less than half of those who seek it receive adequate care. ophthalmological examination. It was found that less than a third of patients diagnosed with diabetes visit an ophthalmologist, only one-sixth of people without DR and less than 10% of people with DR do not undergo an annual examination by an ophthalmologist, which is the most common reason.

Visiting an ophthalmologist is a lack of interest in the patient, and the frequency of visiting an ophthalmologist is inversely related to the age of the patients (OR = 1.091; 95% CI 1.048-1.136), Age of onset of diabetes (OR = 1.077; 95% CI 1.032-1.125), duration of diabetes (OR = 1.156; 95% CI 1.055-1.267), duration of DR (OR=1.202; 95% CI 1.054-1.371), directly proportional to income (OR=4.539; 95% CI 2.054- 10.027), presence of an ophthalmologist in the place of residence (OR=2.208; 95% CI 1.022- 112 4.768), as well as type of DM (OR=4.623; 95% CI 1.837-11.632), whether the ophthalmologist explained the complications and methods of prevention and treatment of DR (OR=4.026; 95% CI 1.819-8.912).

According to the WHO DR Study Group, the main obstacles to effective prevention of blindness are: unscheduled work of outpatient ophthalmologists, fundus examination with a narrow pupil, untimely referral of patients for laser treatment, lack of necessary equipment and experienced ophthalmologists. Treatment of DR, significant remoteness from the regional center and high cost of access to specialized institutions.

The organization of associations of people with diabetes, the release of special brochures for patients, the expansion of the topics of publications on medical topics in the media and existing programs on television are very important measures. The leading factor in the prevention, stabilization and treatment of DR is not only rational therapy of QD, but also the organization of a clear system of detection and treatment of DR, which will lead to a decrease in cases of vision loss and an increase in the quality of life of patients. The problem of preventing blindness in DR is of an organizational nature and requires clear interaction of doctors of various specialties in the management of patients with DR, timely referral of the patient to an ophthalmologist, adequate ophthalmological examination, assessment of the risk of development. deterioration of vision and timely initiation of treatment.

However, according to the conclusion of the WHO research group, the main obstacles to effective prevention of blindness from DR are unscheduled work of outpatient ophthalmologists, fundus examination with a narrow pupil, untimely referral of patients for laser treatment, lack of necessary equipment and experienced ophthalmologists specializing in the treatment of DR, the complexity of getting to the regional center and the high cost of travel to specialized institutions.

Thus, the analysis of the literature made it possible to determine that the issues of improving the organization of early diagnosis of diabetic retinopathy and the correct balanced treatment remain one of the urgent problems of ophthalmology today.

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