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**INCIDENCE OF DIABETIC RETINOPATHY IN PATIENTS WITH TYPE 1 DIABETES
MELLITUS**

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Relevance: Type 1 diabetes mellitus (T1DM) is a severe, chronic endocrine disease that mainly begins in childhood and adolescence and causes the early development of disabling vascular complications, the most common of which is diabetic retinopathy (DR). [1]. Diabetic retinopathy (DR) is currently one of the most common causes of vision loss among the population of industrialized countries. It has been established that the risk of blindness in patients with diabetes mellitus is 30-50 times higher than in people without impaired carbohydrate metabolism. Visual impairment is observed in more than 10% of patients with DR [2]. In 86% of people with complete loss of vision, the cause of disability is precisely DR (WESDR, 1994). According to the World Health Organization, there are about 2 million people in the world who are blind due to DR (WHO, 1999; ADA, 2003).

Objective: To determine the frequency of development of diabetic retinopathy in children and adolescents depending on the patient's age, duration of the disease and the level of glycemic control.

Research methods: The study was conducted in 2025 among patients with type 1 diabetes registered at the Andijan branch of the Republican Specialized Scientific and Practical Medical Center of Endocrinology. The study involved 120 patients, 65 of whom were men and 55 of whom were women. The average age of the subjects was 14 years.

Results: In a random sample of children and adolescents with type 1 diabetes mellitus, diabetic retinopathy was detected in 18.25% of cases. The nonproliferative form of retinopathy prevailed in the composition of diabetic retinopathy, accounting for 87.3%, preproliferative retinopathy was found in 7.2% and proliferative retinopathy in 5.5%. The frequency of diabetic retinopathy increases with the patient's age. Diabetic retinopathy is not observed before the age of 10, even in people with early-onset type 1 diabetes. Diabetic retinopathy is detected in 14.6% of children aged 10 to 15 years, and in 36% of adolescents aged 15 to 18 years. A separate risk group for the development of diabetic retinopathy during puberty (10.6 - 14.6 years) is patients with the onset of type 1 diabetes at the age of 3-5 years. It is this group of patients that accounts for the majority (73%) of patients with diabetic retinopathy diagnosed in children aged 10 to 15 years. Puberty is a critical period for the development of diabetic retinopathy. The intensity of the increase in the cumulative incidence of diabetic retinopathy in the postpubertal period does not depend on the prepubertal duration of type 1 diabetes, but is determined by the duration of the disease after the child reaches puberty. The cumulative incidence of diabetic retinopathy with the same duration of type 1 diabetes, for example, 10 years, is 6 times higher in patients with type 1 diabetes over 10 years of age than in patients with type 1 diabetes under 5 years of age.

Conclusion: The incidence of diabetic retinopathy increases with age. Diabetic retinopathy is not observed before the age of 10, even in people with early-onset type 1 diabetes. Diabetic retinopathy is detected in 14.6% of children aged 10 to 15 years and in 36% of adolescents aged 15 to 18 years. A special risk group for the development of diabetic retinopathy during puberty (10.6 - 14.6 years) is patients with the onset of type 1 diabetes at the age of 3-5 years. It is this group of patients that accounts for the majority (73%) of patients with diabetic retinopathy diagnosed in children aged 10 to 15 years. The level of HbA1c <7.6% is critical for the

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development of DR in children and adolescents. The frequency of the development of diabetic retinopathy increases significantly when the level of HbA1c exceeds 7.6%.

Used literature

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