

## Section 5. Medical science

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### Organization of care for patients with diabetic retinopathy in Uzbekistan

**Abstract:** The organization of medical care to patients with diabetes who have complications — diabetic retinopathy, in the Republic of Uzbekistan was studied.

**Keywords:** diabetic retinopathy, organization of specialized ophthalmologic help.

**Relevance and purpose of the work.** Diabetic retinopathy (DR) is a leading cause of blindness in people of working age in developed countries. It accounts 80–90 % of all disability due to diabetes mellitus (DM) [1, 10–14; 5, 35–37; 7, 13–15; 10, 354–356; 14, 1195–1200]. WHO experts predict that by 2025 the number of diabetics will exceed 300 million people. However, this forecast may be too “optimistic”. The number of registered patients with diabetes mellitus (DM) in 2000 was 11 % higher than the estimates of WHO experts [13, 1414–1431]. Rising incidence of diabetes has an impact on the level of disability, in patients with diabetes type 1, in 5 years after the onset of disease symptoms DR detected in 25 % of cases, in 10 years — nearly 60 %, and in 15 years — 80 % [10, 354–356]. According to the Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR), proliferative retinopathy — the greatest threat to vision, was noted in approximately 50 % of patients with duration of diabetes type 1–20 years and more [4, 20–27]. In DM type 2, which is 90–95 % of all cases of the disease, due to the late diagnosis, signs of DR are revealed at the time of diagnosis of diabetes in 15–30 % of cases, in 10 years — 50–60 %, and in 30 years — in more than 90 % of patients. Proliferative processes observed in 2 % of patients with diabetes for less than 5 years, and 25 % of those with diabetes for 25 years or more [11, 1235–1241; 14, 1195–1200].

According to WESDR 60 % of adult diabetic patients (over 30 years) not treated with insulin, had retinopathy in 25 years, while 10 % — proliferative form. Among older patients receiving insulin diabetes due to severity of DM, over 80 % have retinopathy after 15 years of the disease and 10 % had a proliferative retinopathy. Over 20 % of patients were suffering from retinopathy at the moment of diagnosis of type 2 diabetes. Almost 100 % of patients with type 1 diabetes had retinopathy developed after 15 years from the onset of the disease, and about 25 % of patients

had proliferative DR. Since type 2 diabetes is much more common than type 1 diabetes, this form of the disease may be considered as the main cause of vision loss in patients aged 20 to 74 years [3, 4–5; 6, 80–81; 12, 642–652].

In Uzbekistan, according to Shagazatova B. H. (2004), one of the leading reasons that led to disability (after diabetes that caused more than 50 % disability), was diabetic retinopathy — 7.0 % [8, 41–50; 9, 3–5]. However, according to the data of the Executive Committee of the CIS, in our country, the number of diabetic patients in the last 10 years is increasing annually by 8 %. Currently there are more than 90,000 patients registered, however, considering the fact that at least 2 % of the population of Central Asia have diabetes, and the population of Uzbekistan is 27 million, the real number of patients with diabetes is at least 6 bigger times and according to forecasts is more than 500,000, and the number of persons with disabilities due to diabetic retinopathy — over 20,000.

It should be understood that if in other complications of diabetes there are at least some, even palliative therapies (such as neuropathic with CRF — replacement therapy in the form of hemodialysis, in diabetic foot — surgical aids et al.), in the loss of vision due to DR, there are no even symptomatic treatments. This makes prevention the only affordable and effective method of care for patients with diabetes. Considering the scale of the problem and the huge moral and economic damage to the person, family, society, the need becomes clear to study the situation and assess the adequacy of care provided to patients and ongoing prevention of DR, to develop and propose ways to prevent this terrible complication.

**Material and methods.** To study and evaluate the quality of care for patients with diabetic retinopathy was conducted a questionnaire survey of 711 physicians from 72 family health clinics in Tashkent city. Group of respondents were general practitioners (82.8 %), endocrinologists (9.6 %) and

ophthalmologists (7.6%). Professional experience ranged from 7 months to 42 years.

Also, we conducted a survey of 154 diabetic patients undergoing examinations or receiving treatment in hospitals of the city with a history of diabetic retinopathy. Among the respondents, 12.6% of patients were with type 1 diabetes and 87.4% of patients with type 2; 89 patients were residents of Tashkent city, the rest (65 patients) — Tashkent region and other regions of the republic.

**Results.** As the results of the survey show (see. Table 1), almost half of the general practitioners (43.5%) send the patients with newly diagnosed diabetes on eye examination, only when the patients have complaints. Whereas endocrinologists, as well as ophthalmologists (78.7% and 89.9% respectively) recommend to have eye examination immediately.

A similar situation exists with establishing regularity of examination of patients with diabetes. According to the majority of general practitioners DR patient is enough to observed once a year (45.1%) or six months (35.1%), although the regularity should be determined directly by an ophthalmologist (66.1%) which is supported by endocrinologists (58.5%).

In cases when the patient already has complications of the eyes, in the opinion of the therapists responsibility lies with the patients themselves (78.2%), due to not referring to the directions of the physician. A somewhat different view of the problem from Specialists — endocrinologists and ophthalmologists, most of which are examining patients with diabetes in time, and consider not satisfactory work of primary care physicians — one of the causes of the late-treatment patients (almost half of the cases — 49.5%).

Table 1. – The results of the survey of physicians in family clinics in Tashkent

The studied issue	GPs	Endocrinologists	Ophthalmologists
In newly diagnosed diabetes, examination by an ophthalmologist is performed:			
• immediately	34.8 %	78.7 %	89.9 %
• in case of complaints	43.5 %	15.9 %	9.6 %
• during routine clinical examination	21.7 %	5.4 %	0.5 %
What should be a regularity of examination in patients with diabetes:			
• annually	45.1 %	17.7 %	12.8 %
• every 6 months	35.1 %	23.8 %	21.1 %
• set by ophthalmologist	19.8 %	58.5 %	66.1 %
When a patient is seeking care for a significant disorders of the visual organ it's a result of:			
• patient's lack of awareness	21.8 %	43.3 %	49.5 %
• not referring to the directions of the physician	78.2 %	56.7 %	50.5 %
What are the methods of treatment and prevention of DR that you recommend to patients?			
• medicamental	78.8 %	45.4 %	23.2 %
• Laser Surgery	16.3 %	45 %	58.4 %
• vitreoretinal surgery	4.9 %	9.6 %	18.4 %

We also attempted to find out what are the doctor's ideas on treatment and prevention of diabetic retinopathy. As the results of the survey, family physicians still attach great importance to drug therapy (emoksipin, taufon et al.) — almost 80% of cases, preferring it to other forms of treatment. Somewhat different is the situation at the ophthalmologist, a significant number of patients on which are directed to the laser and vitreoretinal surgery (58.4 and 18.4% of cases). However, conservative treatment is also actively used by them, and at different stages of DR.

In a survey of patients with DR about 59% of the respondents are not aware of the necessity of regular eye exams, the possible complications of diabetes on the eyes as well as the need for preventive measures (many of the patients were residents of remote regions). About a third of respondents (29%) had the idea of diabetic retinopathy, but for various reasons did not follow the recommendations of doctors. Only 7 patients (mostly residents of the capital) were under the supervision

of an ophthalmologist and they underwent a laser photocoagulation of the retina.

Summarizing the above said is necessary to recognize the work of primary care as unsatisfactory, which is confirmed by the results of the survey, as well as the opinions of narrow specialists and patients: delayed examination of patients, their lack of awareness coupled with noncompliance to doctor's instructions leads to the early development of ocular complications of diabetes, and as a consequence to blindness and disability.

Despite the important role of ophthalmologists, facing the major challenges of diagnosis, treatment and prevention of DR depends on primary care, where long-term control over the course of diabetes, patient's condition and the dynamics of its complications is possible. Since diabetes mellitus is 80–85% in the structure of endocrine pathology [1, 8–78; 2, 248–265; 4, 128–133] treatment and monitoring of this group of patients abroad is carried out by general practitioners (GPs),

the institution of which is formed in our country. This allows bringing medical care closer to the population, to carry out treatment and preventive work with all family members, improve health literacy and by reducing the burden on medical specialists to conduct better monitoring of these patients.

Despite the fact that the DR remains the leading preventable cause of blindness in working-age adults, there are effective primary and secondary interventions, allowing to preserve vision [1, 8–78]:

- Identification of retinal lesions (screening) and subsequent dynamic observation of its condition (monitoring);
- Optimum compensation of carbohydrate and lipid metabolism, blood pressure control, normalization of renal function, etc.;
- Treatment of retinal lesions.

It is important to remember that even expressed diabetic changes in the eye fundus are asymptomatic: visual acuity remains good. The patient is unaware of them, if not regularly passes examinations by an ophthalmologist, or as long as he is not having permanent visual impairment. Therefore regular, routine monitoring of the eye in patients with diabetes is so important.

The frequency of examinations:

- The first examination: the patient should be examined by an eye doctor not later than 5 years after diagnosis of diabetes. In domestic conditions, given the insufficient level of compensation of the disease, it is advisable to carry out the first inspection no later than 1.5–2 years since diagnosis of diabetes;
- In the absence of diabetic retinopathy: at least once in 1–2 years;
- If there are signs of diabetic retinopathy: examination should be carried out not less than 1 time per year, and more

frequently if necessary, for example if there are signs of rapid progression of diabetic retinopathy with intercurrent diseases;

- A combination of diabetic retinopathy with pregnancy, hypertension, chronic renal failure, risk groups are formed, that require individual control over the development of this complication.

Thus, for effective monitoring of the patients with diabetes mellitus and its complications, it requires a coordinated work of GPs and nurses — diabetes instructors, together with a team of specialists (diabetologists, nutritionists, ophthalmologist, neurologist, nephrologists, and others).

**Conclusions.** Diabetes mellitus is one of the priority health and social problems. This is due to the widespread prevalence, chronic progressive course of the disease and the high disability of patients. Meanwhile, it is proved that almost all of the complications of diabetes (including those associated with the deterioration and complete loss of vision), the treatment of which is expensive and not always effective, can be prevented. One way of solving this problem — combined efforts of many specialists, and not least, on the issue of prevention of visual impairment. The relevance of physicians education, their acquaintance with modern methods of treating diabetes and prevention of its complications is evidenced by the adoption and implementation of numerous international and national projects on diabetes and blindness from it. Given the prospects of growth of diabetes, the scale of this work can be described as a colossal. On the other hand, it is necessary to expand the coverage of diabetic patients in the form of training schools of protection from the complications of diabetes. Attentive, sensitive attitude to their vision of these patients, the timely detection of early diabetic retinopathy by ophthalmologists at all levels, will help many patients to preserve their eyesight as long as possible.

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## **The possibilities of prolongation of pregnancy in women with leaking of amniotic fluid in the second and in the beginning of third trimester**

**Abstract:** With the development of premature rupture of membranes in terms 28–30.5 weeks, prolongation of pregnancy more than 48 hours, held-Niemi prevention of RDS contributes to significant decrease in perinatal mental and postnatal lethality, and lengthening the latent period of more than 168 hours, significantly reduce child morbidity.

**Keywords:** Prolongation of pregnancy, amniotic fluid.

The main tasks of Obstetrics are creating optimal conditions for the woman function of maternity, maintaining her health and providing the birth of healthy offspring. On the background of low birth rate the perinatal mortality remains rather high and exceeds the 12 %, although it has a tendency to decrease over the last 10 years [1; 2].

The premature labor has special significance in the structure of perinatal morbidity and mortality are against the backdrop of premature rupture of membranes, which is one of the most frequent reasons for initiating of patrimonial activity in 34.9–56 % of all preterm births [3].

Studying of features of pregnancy in case of premature rupture of membranes and determination of optimal duration of anhydrous interval, methods of preventing of infectious complications, the timing and method of the delivery at various gestational periods will reduce the number unfavorable outcomes in this serious pathology [4, 5].

Taking into account the national particularities, the living conditions of our women (chronic anemia, endemicity, resulting in frequent thyroid disease, isthmus cervical insufficiency, congenital malformations of the uterus, stress, etc.) the primary goal of our study to highlight the major prognostic factors and the development of preventive measures for prolongation of incomplete pregnancy complicated by premature rupture of membranes in the second and in the beginning of third trimesters [3].

Searching more information about the mechanisms of premature rupture of membranes allows developing drugs of pathogenetic action, which should help doctors around the world to cope with the problem of reducing the incidence of premature births [6].

Now the challenges of prolonging pregnancy for preterm rupture of membranes and determination of the optimal

duration of anhydrous interval poorly studied and were not worked out prognostic criteria of prolonging pregnancy.

**The aim** of our research was to determine the optimal duration of prolonging incomplete pregnancy complicated by premature rupture of membranes in terms of 22–34 weeks, as well as to reduce perinatal morbidity and mortality, and the number of infectious complications in pregnancy, parturients and puerperant.

**Material and methods.** The study is based on clinical and laboratory examination of 107 women surveyed patients and 40 healthy subjects of comparable age.

All patients were divided into 3 groups according to the duration of anhydrous interval:

- 1 group of 38 women with premature rupture of membranes, which will be conducted prolongation of pregnancy in conditions of dry period whose duration is 24 hours.
- group 2 — 39 women with premature rupture of membranes, which will be held of prolongation of pregnancy in conditions dry period, the duration of which is up to 72 hours.
- 3 group — 40 women with premature rupture of membranes, which will be held of prolongation of pregnancy in conditions dry period, the duration of which will be more than 72 hours.

**Results and discussion.** In the observed pregnancy was marked by a high incidence of chronic somatic diseases, despite the young average age (mean age 26.3 years). The most often met thyroid pathology, and how to consequence, disorders of lipid metabolism. This is due to the fact that the Andijan region is a zone where the low iodine content in drinking water. Less frequently detected chronic pyelonephritis and chronic hypertension.

In the majority of cases, women of all three groups were multiparous, and on average, each woman had three