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THE EFFECTIVENESS OF MEDICAL EXAMINATION OF PATIENTS WITH PRIMARY OPEN-ANGLE GLAUCOMA IN THE BUKHARA REGION

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ABSTRACT

Objective: To study the nature of the course of the glaucoma process in patients with primary open-angle glaucoma (POAG) undergoing medical observation at ophthalmologists at polyclinics, depending on the age of the patients and the duration of the disease. **Material and methods:** a continuous retrospective study of case histories of 72 patients (144 eyes) of POAG was taken for follow-up in 2016-2017 and observed by ophthalmologists of territorial polyclinics of the Bukhara region for 5 years, with the study of the effectiveness of the clinical examination. **Results:** long-term follow-up monitoring of the course of the glaucoma process in patients with POAG in a clinic showed its low efficiency. Disease progression has occurred in all age groups. The greatest progression was noted in the age groups of 40-49 and 70-79 years. Deterioration of visual functions depending on the age of glaucoma in patients with initial and developed stages began at 2-3 years and continued throughout the follow-up. In patients with a far advanced stage, the transition to the terminal began at 4-5 years.

KEYWORDS: glaucoma, clinical examination, incidence.

One of the most pressing problems of modern ophthalmology is glaucoma. Primary open-angle glaucoma (POAG) is a chronic, long-latent developing eye disease, the etiology and pathogenesis of which are still unclear.

Despite the successes of modern ophthalmology in the treatment of glaucoma patients, the results of the dispensary work often show an insufficient level of knowledge of ophthalmologists in assessing the progression of the glaucomatous process and anticipating its consequences.[2]

Many authors study the course of the glaucoma process from clinical and pathogenetic positions. The main emphasis is on research into the causes of increased clinical symptoms and progressive deterioration of visual function in patients with POAG.[1,3,5,7,8]

However, despite all the efforts of modern ophthalmology, the incidence of glaucoma not only does not decrease, but even grows up. In this regard, it is relevant to study the qualitative indicators of clinical examination of glaucoma patients in order to improve the system of preventive measures and ultimately reduce the incidence of this disease.[4,6]

The aim of this study was to study the nature of the course of the glaucoma process in patients with primary open-angle glaucoma (POAG) undergoing medical observation at ophthalmologists at polyclinics, depending on the age of the patients and the duration of the disease.

A continuous retrospective study of case histories of 72 patients (144 eyes) of POAG was taken for follow-up in 2016-2017 and observed by ophthalmologists at the regional polyclinics of Bukhara for 5 years, with the study of the effectiveness of the clinical examination. Clinical examination and regular dynamic observation made it possible to confirm the diagnosis of POAG in 72 patients (144 eyes). The analysis of the effectiveness of a 5-year clinical examination in 72 (144 eyes) patients with POAG was performed.

For all patients, dispensary cards of the POAG patient were developed and instituted.

When conducting a general analysis of the condition of all patients with POAG, it is clear that the number of eyes with initial glaucoma when the patient was registered at the dispensary was 34.7%, and by the end of the observation their number decreased to 16.7%. The proportion of the developed stage increased (from 57.0 to 66.7%), the proportion of advanced (from 7.0 to 12.5%) and terminal (from 1.3 to 4.1%) stages increased significantly. Changes during the observation period have been significant. By the end of the follow-up, there

were practically no eyes left with the initial stage of POAG (0.2%). The proportion of advanced and terminal stages has significantly increased (from 8.3 to 16.6%). (table 1).

Table 1: The dynamics of the glaucoma process over a 5-year period of clinical examination of patients in a clinic (number of eyes, n (%)).

The observation period	Stages of glaucoma				Total
	Stage 1	Stage 2	Stage 3	Stage 4	
Start	50 (34.7)	82 (57.0)	10 (7.0)	2 (1.3)	144 (100)
after 1 year	45 (31.2)	86 (39.6)	10 (7.0)	3 (2.0)	144 (100)
after 2-3 years	39 (27.1)	89 (61.8)	12 (8.3)	4 (2.8)	144 (100)
after 4-5 years	24 (16.7)	96 (66.7)	18 (12.5)	6 (4.1)	144 (100)

When studying the influence of the patient's age on the severity of the initial stage of POAG, it was revealed that in the age group of 40-49 years, all patients with this stage had an unstable glaucoma process and the disease progressed to the developed stage in 100% of the eyes. In the age group of 50-59 years, by the end of the observation, the initial stage remained in only 5.6% of the eyes, in other cases, the disease progressed to the advanced (83.3% of the eyes) and far-reaching (11.1% of the eyes) stages. The same progression of the initial stage of glaucoma occurred in the age groups of 60-69 years and 70-79 years. It should only be noted that in the age group of 70-79 years, in 16.7% of the eyes, glaucoma progressed from the initial stage to the far advanced (table 2).

Table 2: Progression of stage I POAG in stage II-IV depending on age (number of eyes, n (%)).

Age, years	Start of observation	End of observation			
	Stage 1	Stage 1	Stage 2	Stage 3	Stage 4
40-49	4	-	4 (100)	-	-
50-59	18	1 (5,6)	15 (83,3)	2 (11,1)	-
60-69	22	1 (4,5)	19 (86,4)	2 (9,1)	-
70-79	6	-	5 (83,3)	1 (16,7)	-
Total	50 (100)	2 (4,0)	43 (86,0)	5 (10,0)	-

The progression of the developed stage of POAG to the far advanced and terminal also did not reveal any obvious dependence on age, with the exception of the age groups 40-49 and 70-79 years. By the end of the follow-up in patients aged 40-49, glaucoma from the developed stage progressed to far reaching 80% of the eyes. In the age groups of 50-59 and 60-69 years, the glaucoma process proceeded more safely and in 57.5-60.9% of the eyes it was possible to stabilize the course of glaucoma. However, in these age groups, by the end of dynamic observation in about 40% of the eyes, the disease progressed to a far-reaching and terminal stage. And in patients aged 70-79 years, in 28.6% of the eyes, glaucoma progressed to the advanced stage and in 42.8% of the eyes to the terminal stage. Almost every patient of this age group, by the end of the 5-year follow-up, moved from the developed stage of glaucoma to the terminal. This is an unsatisfactory indicator and indicates a very low efficiency of follow-up observation of patients with POAG in the conditions of the primary outpatient unit (table 3).

Table 3: Progression of stage II of POAG in stage III and IV depending on age (number of eyes, n (%)).

Age, years	Start of observation	End of observation		
	Stage 1	Stage 2	Stage 3	Stage 4
40-49	5	1 (20)	4 (80)	-
50-59	23	14 (60.9)	7 (30.4)	2 (8.7)
60-69	47	27 (57.5)	16 (34.0)	4 (8.5)
70-79	7	2 (28.6)	2 (28.6)	3 (42.8)
Total	82 (100)	44 (53.6)	29 (35.4)	9 (11.0)

The progression of the advanced stage of POAG taking into account age revealed the greatest deterioration in visual function and the unstable course of glaucoma in patients in the age groups of 60-69 and 70-79 years. In this category of patients, by the end of the follow-up observation, the disease passed into the terminal stage in 66.7 and 100% of the eyes, respectively. This is the same as in the previously considered indicators of the initial and developed stages, very poor indicators, indicating the low efficiency of the clinical examination of POAG patients by ophthalmologists of territorial clinics (table 4).

Table 4: Progression of stage III of POAG into stage IV depending on age (number of eyes, n (%)),

Age, years	Start of observation	End of observation	
	Stage 3	Stage 3	Stage 4
40-49	2	1 (50.0)	1 (50.0)
50-59	4	2 (50.0)	2 (50.0)
60-69	3	1 (33.3)	2 (66.7)
70-79	1	-	1 (100)
Total	10 (100)	4 (40.0)	6 (60.0)

The second important factor influencing the course of the glaucoma process is the duration of the disease. We were interested in revealing what is the effect of the duration of the disease on the course of POAG, in which time period of the follow-up observation does the progression of the glaucoma process occur, and does it depend on the stage of glaucoma?

An analysis of our data indicates that the progression of the glaucoma process in a certain way depends on the duration of the disease. However, this dependence is not the same at different stages of POAG. In the initial stage, the deterioration of visual functions began at 2-3 years of follow-up, reached a maximum at 4-5 years and continues in all subsequent periods of observation. In the advanced stage of glaucoma, the progression of the glaucoma process also began at 2-3 years of observation. In a far advanced stage, in contrast to the initial and developed stages, progression began at 4-5 years.

In addition, our study showed that a significant percentage of the transition of the initial stage of POAG to the developed one, apparently, is explained by the inconsistency of the clinical diagnosis of glaucoma and its stage with records in the outpatient medical history, reflecting the clinical picture and parameters of the glaucoma process. As a result, according to the follow-up observation in the clinic, the patient is listed in the initial stage of glaucoma, and according to the records in the outpatient map (peripheral vision, description of the optic nerve head), he has a developed stage of the disease. Ophthalmologists of polyclinics when setting up a patient for follow-up observation underestimate the parameters of the eye, its clinical condition, visual functions and put the patient for the first time in the clinic not with a developed stage, but with an initial stage.

Thus, the present study of the results of long-term follow-up observation of the course of the glaucoma process in the conditions of the primary outpatient unit showed its low efficiency. This is evidenced by the fact that every twelfth patient by the end of the 13-year observation completely loses sight. The progression of the glaucoma process began at the age of 40-49 and occurred in all age groups. However, the greatest progression of the disease was noted in the age groups of 40-49 and 70-79 years (Table 2-4), both in the initial, developed, and in advanced stages.

CONCLUSIONS

Progression of POAG with prolonged follow-up occurs in all age groups. The most noticeable deterioration in visual function is observed at the age of 40-49 and 70-79 years. The unstable course of the glaucoma process begins with 2-3 years of follow-up, reaches a maximum of 4-5 years and continues in all subsequent periods of observation. Correct, adequate and highly qualified dynamic monitoring and treatment of patients with POAG should be carried out immediately when glaucoma is detected and it is reasonable to continue throughout the entire period of dispensary control, taking into account age-related characteristics.

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