

DIABETIC RETINOPATHY : PREVALENCE AND RISK FACTORS OF ITS DEVELOPMENT

DR PH. F. A. KHAIDAROVA, DR. AKSHEY KHERA
DR. PH. N.R.YANGIEVA, DR. N.KH.
ABASKHANOVA, DR. B.A. SULTANOV Tashkent
Medical Institute of Post Graduate Study First Tashkent
State Medical Institute Tashkent. Uzbekistan.

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The late complications of the DM are one of the basic reasons of premature physical inability and lethality of the DM patients, which puts essential harm to the health of the population and the economy as a whole (2). Proceeding from it in the foreground the problem of prophylaxis of the given DM complications is put forward.

For the development of effectual measures of prophylaxis it is necessary to study features of a course, prevalence and to reveal the factors promoting the development of the late complications of the DM.

Diabetic retinopathy (DR) is one of the specific complications of the DM characterized by a high ratio of blindness.

The purpose of the present work was the study of the frequency of the late complications of the DM on the population of the DM patients in Tashkent city conditions and the study of the risk factors promoting their development.

The given article is devoted to the analysis of the received information on the prevalence of the DR and the factors of its development.

In the City Endocrinology Dispensary a single time research in the epidemiology of the late DM complications is performed. The Cohort method is used for selection of observation units. Cohort was

formed in accordance with all basic attributes of general set: typicalness by sex, age (18-75 years) and type of DM.

For processing the selective totality of the representative group of DM patients the formula of unrepeated random selection offered by R.N Biryukova was used.

All surveyed were interrogated on the specially developed card. The card is developed on the basis of an information medical sheet offered by the European regional bureau of the WHO and is adapted according to purposes and research problems.

The card includes the items of information on the patient, duration of disease and treatment (diet observance, reception of tablet sugar reduce preparations and insulin,

duration of reception of preparations, dose of short-active and prolonged forms of insulin, frequency of injections per day).

Analyzed anthropometrical and biochemical parameters, the presence and expressivities of changes in the fundus of the eye, function of kidneys, vascular system, nervous and genital systems as the most often displays of late complications revealed presence in anamnesis hereditary history on DM and hypertensive disease. In women we analyzed the quantity of pregnancies in anamnesis and their results. We determined the coma presence in anamnesis, both hypoglycemic and hyperglycemic. We estimated the risk factors and their character. Found out the level of knowledge in the patient about DM and the degree of realization by himself of self-checking.

Diagnostics and screening of diabetic nephropathy performed by qualitatively defining proteinuria with the help of the Phan test of the «Lachema» firm. The test was considered positive, if the albumin concentration in urine was more than 300mg/ day.

Diagnostics and screening of the peripheral neuropathy performed on the basis of the definition of vibrating sensitivity with the help of the graduated tuning fork. The research was performed on a horizontal patient's condition.

Diabetic[^] retinopathy diagnostics performed by way of selection data from medical cards and if necessary examining the fundus of the eye with the help of direct ophthalmoscopy after the dilation of pupil. Revealed changes classified by ophthalmoscopic criteria were offered by E. Koner and M. Porta.

Ischemic heart disease (IHD), vessels macroangiopathy of the lower extremities was established on the basis of combination of the positive answers on the standard Rouse's questionnaire with the presence of stenocardia, myocardial infarction, alternating lameness syndrome, and, also if necessary on the basis of ECG and reovasography examinations.

The total number of patients: 1201 persons, out of them men - 40.5% (486), women - 59.5% (715).

Patients suffering from insulin-dependent DM (IDDM) - 201, from non-insulin dependent DM (NIDDM) - 1000.

By the presence of IDDM the greatest number of patients are registered till 40 years (70.1%), and with NIDDM - more senior than 50 years old (75.6%).

The distribution of those surveyed on the duration of DM has shown, that the greatest quantity of the patients was with the disease duration of 6-10 years.

On a compensation degree patients were distributed as follows - with IDDM:

1. with the compensated course - 2.4 %,
2. with the sub compensated course - 39.3%,
3. with the decompensated course - 58.2%.

With NIDDM

1. 13.3%,
2. 47.8% ,
3. 38.9% accordingly.

As shown the received data total frequency of the DR for all the surveyed population of the DM patients has made up 95% (950).

From the total number of patients IDDM has made up 78.6% (158) cases, NIDDM - 79.2% (792), i.e. between them there is not ? significant difference. Our data is compared of the data of the literature.

The analysis of DR prevalence among the IDDM patients in view of age has shown, that there is a natural growth of its parameters with an increase in the age of the patients. So, in the age group of 50-59 the parameters of DR prevalence were significantly more ($p < 0.01$) than in the group of people

from 30-39. As for NIDDM, the parameters of DM prevalence in all age groups significantly did not differ ($p>0.05$). It is acceptable to consider, that the development and progression of the DR is in direct dependence on DM. According to our data, both with IDDM, and with NIDDM, the DR frequency steadily accrues depending on the duration of the disease. So with the NIDDM duration till 5 years - DR frequency has made - 62.4%, and with the duration of disease more than 15 years - 100% ($p<0.001$), with IDDM - till 5 years - 57.4%, after 15 years -100% accordingly.

The hyperglycemia importance as a risk factor for DR development proves to be true both under clinical and experimental supervision. To a number of the authors it is proved, that low glycemic control is the basic harbinger of development clinically expressed diabetic retinopathy (4) . The analysis of the received information has shown, that there is a direct dependence between a compensation degree and diabetic

nephropathy prevalence irrespective of a DM type.

So in the compensated course of disease frequency of clinically expressed DR has made 20%, whereas in the decompensated course -96.4%.

There are many works, which testify, that hypertension and DR development are closely interconnected at least in the IDDM patients (1). The analysis of the received data has shown, that hypertension is marked in 41.1% (65) of IDDM patients having DR and in 50.3%(399) of NIDDM patients accordingly.

Blood pressure also was significantly increased depending on the stage of disease. So if the average systolic pressure in DR1 has made 126.04 +20-mm Hg, in a stage of DR2 - 133.5+ 21mm Hg, and DR3 - 158.57 + 27.2mm Hg. Similarly the diastolic pressure changed - 83.3 + 13mm Hg, 84.16 +12 mm Hg and 94.28 +16mm Hg accordingly.

In our research in 57% of IDDM patients having diabetic retinopathy, the hereditary history on hypertension is noted, and in NIDDM - in 51.3% of patients accordingly.

Diabetic microangiopathy, as a rule, damages the capillaries of various organs and tissues. It is

necessary to note, that the nephroangiopathy combination with the microangiopathy of other localization is still insufficiently investigated. As a rule, most often it is the combination of diabetic nephroangiopathy with retinopathy. On analysis of the received results it was revealed, that the frequency of the clinically expressed nephroangiopathy in:

DR1 - 36.7 + 2.7 % ,

DR2 - 76.6 +2.7% and

DR3 - 4.28 +2.6 % accordingly.

And the frequency of severe renal lesions and retinopathies had the following combination: 1- 0%, 2 - 4.6 +1.2% and 3 - 57.1 + 2.3 % , that is obviously traced interrelation and positive correlation between diabetic nephroangiopathy retinopathy depending on the degree of lesions both the vessels of the kidneys and the vessels of the fundus of the eye.

INFERENCE

The total frequency of the diabetic retinopathy for the whole population of the DM patients has made 95%.

The comparative analysis of the diabetic retinopathy prevalence depending on a type of DM has not revealed ? significant difference ($p>0.05$).

The DR frequency increases depending on the duration of the disease irrespective of a DM(? <0.001).

The DR frequency significantly increases depending on the age at the IDDM, whereas at the NIDDM the prevalence of the diabetic nephropathy by age did not differ significantly ($p>0.05$).

There is a direct correlation between the

compensation degree of the DM and DR frequency ($p < 0.001$). It shows, that a basis of an effective treatment of the DR and its prophylaxis is the stable compensation of a diabetes mellitus.

LITERATURE

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