Central Asian Journal of Medicine

## SPECIFIC ASPECTS OF DISEASES IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND HUMAN IMMUNODEFICIENCY VIRUS CONCOMITANT

#### Barno Kh. Shagazatova<sup>1</sup>, Feruza S. Mirkhaydarova<sup>2</sup>

<u>1</u> DSc, Professor of the Department of №2 Internal medicine and Endocrinology, Tashkent Medical Academy, Tashkent, Uzbekistan E-mail: bshagazatova@gmail.com

2 Assistant of the Department of №2 Internal medicine and Endocrinology. Tashkent Medical Academy, Tashkent, Uzbekistan E-mail: mirkhaydarova.f@gmail.com

#### ABSTRACT

In recent years, Type 2 diabetes has been growing rapidly in pictures and spreading rapidly among the younger class of the population. This is manifested by an increase in the number of cases of infection with HIV (human immunodeficiency virus), among other diseases. One of the characteristic features in the concomitant meeting of HIV infection and diabetes mellitus is associated with a sharp decompensation of glycemic indicators in patients and a strong influence on this by the Roxy-emotional state.

Key words: diabetes mellitus, HIV infection, glycemia.

#### **INTRODUCTION**

In this article we will tell you how to do it. Due to the fact that there are currently a number of measures related to environmental protection, including in the field of health and social protection of the population, as well as in the field of health, as well as in the field of health, including in the field of health, in the field of health, health, health, health care, health care and social protection of the population, as well as in the field of health care, as well as in the field of health care, health care, health care and social protection of the population, as well as in another way. In this article we will tell you how to do it. Due to the fact that there are currently a number of measures related to environmental protection, including in the field of health and social protection of the population, as well as in the field of health, as well as in the field of health, including in the field of health, in the field of health, health, health, health care, health care and social protection of the population, as well as in the field of health care, as well as in the field of health care, health care, health care and social protection of the population, as well as in another way.

The diabetes is one of the most common diseases in the world. In many countries around the world, diabetes of sugar is an urgent medical and social problem. The urgency of diabetes is characterized by rapid growth and high divoral between all endocrinous diseases [11.23-14b]. According to IDF diabetes satin, 424.9 million diabetes in the world have been registered and by 2045, this figure is expected to reach 628.6 million.

Additional ARTOs, including the main risk factors, are more cholesterol and high blood pressure, which is 15% of diabetes in patients with HIV, including excess cholesterol and high blood pressure. The use of antioges and proteaza inhibitors further enhances the risk of low levels of lipodi history, stable inflammatory suitable for HIV (Liliya Ten, Plos One, 2021). Professor Lorens Slama and colleagues in Paris were studied by HIV in a period of 1094 patients with HIV, 156 of which were diabetes. 75% of diabetes were men. The participants' average ART duration was 12 years. 38% of patients with examinations were not developed, and 116 of those diagnosed also did not receive the optimal necessary treatment (http // Life4ME.Plus). We, too, we have studied the specifics of the interaction and clinical diseases in patients with diseases in the medical and suitable diabetes in our research.

**Objective:** HIV infection, in diabetics and patients with HIV, assessment of carbohydrate and lipid metabolism indicators.

**Materials and methods of research:** HIV infection and patients with suitable type of diabetes were divided into groups of 2 during the primary development of the diabetes. The 1st group is a group of patients with HIV, and the average age of  $42.3 \pm 1.35$ , which is  $42.3 \pm 1.35$ . Of these, 26 are women and 12 are men. Of these, 28 patients receive the Art, and 10 patients do not accept Art. There are 13 groups of 2 groups of patients, 9 are women and 4 are men. Their average age is  $45.6 \pm 1.86$  years. All patients receive an Art (ART duration  $6.5 \pm 0.61$ ); Duration of QD  $8.4 \pm 0.72$ ; HIV duration is  $6.7 \pm 0.53$ .

**Results.** Below are the results of HIV infection sites in groups of 2 in the group:



#### Figure 1. Mechanisms of infection of human immunization virus in groups

Sexual transmission of HIV in group 1 was 60.5%, in group 2 it was 30.7% (r<0.01). Damage by parenteral mechanism was 26.3% in group 1 and 53.8% in group 2 (r<0.01). Most parenteral procedures (24%), blood transfusions (1%), dentist (19.5%) and gynecologist (27%), podiatrist visits (31%), narcotics (0.5%) and operative interventions (6%). He organized the transmission of HIV infection through the parenteral mechanism.

During the study of the coexistence of HIV infection and QD type 2, patients were characterized by general clinical indicators in these groups (Table 1).

Table 1

# Infection of human immutuality virus and the clinical characteristics of patients with the 2nd Type of diabetes together

Indicators	Group 1 n=38	Group 2 n=13	Р
Gender: Female	26 / 68,4±7,6	9 / 69,2±13,3	>0,05
Male	12/31,6±7,6	4 / 30,8±13,3	>0,05
Age	42,3±1,5	45,6±3,6	>0,05
Duration of acquired immunodeficiency virus infection	8,4±0,56	6,5±1,2	>0,05
Duration of antiretroviral therapy	4,7±0,36	5,0±1,0	>0,05
Duration of type 2 diabetes	4,9±0,43	$8,4{\pm}1,4$	< 0,05
Body mass index	25,0±0,87	26,6±1,2	>0,05
Waist circumference	93,4±2,2	93,0±2,8	>0,05
Thigh circumference	97,4±2,0	$101,4\pm 2,4$	>0,05
Abdominal index	0,96±0,012	0,92±0,017	< 0,05
CD4 lymphocyte count	419,2±45,1	396,7±64,0	>0,05
Viral download	258195,2±195375,8	31372,8±23154,2	<0,05

According to the results in this table, the age of patients in group 2 was greater than in group 1. The difference between body mass index and waist and hip circumference was not reliable. However, the abdominal index was found to be significantly higher in group 1 than in group 2 (r<0.05). Although the CD4 lymphocyte count was higher in group 1, the results showed that the results were not reliable. Viral load was also higher in group 1. In addition, compensation of glycemic indicators was evaluated in these groups (Table 2).

#### Table 2

Indicators	Group 1 n=38	Group 2 n=13	Р
Glycemia level, mmol/l	$7,4\pm0,29$	9,1±0,63	<0,05
Glycated hemoglobin,%	7,6±0,23	8,5±0,38	<0,05
Insulin, µTB/ml	$18,4{\pm}1,0$	19,6±1,6	>0,05
HOMA index	6,1±0,44	8,0±0,46	<0,05

#### Evaluation of the compensation of glycemic indicators in groups

As shown in Table 2, postprandial glycemia and glycated hemoglobin values were reliably higher in group 2. The amount of dietary insulin was not significantly different between the groups. It can be seen that the HOMA index scores were also reliably higher in group 2 patients. All these indicators mean that carbohydrate metabolism compensation has not been achieved in patients with primary diabetes type 2. In addition, the correlation of body mass index with indicators of excess body weight in patients has motivated the study of lipid metabolism disorders. For this reason, the state of lipid metabolism (Table 3) was evaluated in this category of patients.

#### Table 3

Indicators	Group 1 n=38	Group 2 n=13	Р
Total cholesterol	5,9±0,15	5,8±0,29	>0,05
Triglycerides	3,3±0,14	$2,52\pm0,25$	< 0,05
High density lipoproteins	$1,01\pm0,08$	1,23±0,10	>0,05
Low density lipoproteins	3,38±0,20	3,41±0,35	>0,05
Very low density lipoproteins	1,49±0,06	$1,14\pm0,11$	< 0,05
Atherogenic index	4,9±0,15	4,8±0,29	>0,05

#### Evaluation of lipid metabolism disorders in groups

Table 3 can clearly see changes in lipid metabolism indicators in 2 groups. In this case, the difference between the above 2 groups was not reliable. However, when the amount of TGs and zzhlps is determined, the difference between them is reliable and in patients 1 indicators showed higher results. In patients with HIV, the tracing of lipid metabolism is sharply.

When analyzing patients in the study taking hypoglycemic drugs due to glycemic decompensation, it was found that 8 of these patients were taking hypoglycemic drugs. 5 of them received sulfonylurea, and 3 received intermediateacting insulin in monotherapy. They did not regularly check the glycemic index of the meal in dynamics. Therefore, we were unable to stratify by treatment group due to insufficient evidence. Non-adherence to medication, indifference to self-control, HIV infection and type 2 QD were assessed as having no cure, and a low will to live was manifested by poor glycemic performance in patients. Therefore, the SF-36 questionnaire was administered to determine the extent to which quality of life indicators were impaired in patients. In filling out this questionnaire, based on patient consent, all patients filled in the indicators that they considered necessary without the influence of others.

All indicators were summarized and mental and physical health indicators were calculated. All parameters were compared with the results of 25 patients with type 2 diabetes in the control group without HIV infection (Table 4).

Table 4

Indicators	Main group	Control group	Р
Physical fitness	49,0±0,69	60,8±0,61	P<0,05
Daily activities based on	50,0±0,01	77,0±0,01	P<0,01
physical condition			
General state of health	16,0±0,69	66,0±0,41	P<0,001
Life activity	15,0±0,01	55,0±0,01	P<0,001
Social activity	35,0±1,15	64,0±2,32	P<0,05
Daily activities based on	40,0±4,59	66,67±0,03	P<0,001
physical condition			
Mental health	31,20±0,37	58,48±1,31	P<0,05
Physical component of health	36,5±0,05	64,7±0,48	P<0,001
The mental component of	30,3±1,53	63,3±0,61	P<0,001
health			

**Evaluation of the results of the groups on the basis of SF-36 surveys** 

Based on the data presented in this table, it can be said that the values of all points were significantly different between the main group and the control group (P<0.001). The unsatisfactory result of the physical component of health in the 2nd group is explained by the presence of various macro and micro vascular complications typical of diabetes in patients, while the unsatisfactory result of the mental component of health in the main group is explained by the low confidence in living and the negative outlook of the disease. This, in turn, was reflected in a severe deterioration of quality of life indicators.

It is not without possibility that mental disorders pass under the guise of depression and serve to develop such characteristics as severe depression and lack of faith in life. In this regard, another questionnaire was administered to the patients to determine to what extent these changes in health reflect the state of depression. Gamelton's depression questionnaire was given to each of the patients and the following result was obtained by summing up the collected values in them (Figure 2).





According to the results of the Gamelton questionnaire, 21% of patients had mild depression, 46.5% of moderate depression, 27.3% of severe depression, and 5.2% of patients had no depression. This, in turn, proves that the mental disorders identified in the SF-36 questionnaire in patients are under the guise of depression. In order to increase the effectiveness of treatment in this category of patients, it is necessary to remove them from depression. In this way, it is possible to establish self-monitoring of patients, through which it is possible to achieve early detection and prevention of diseases and complications that may develop in them.

## **CONCLUSION:**

1. When studying patients who were observed together with HIV type 2 QD, the rate of sexual transmission was 60.5% in those with primary HIV type 2 QD followed by parenteral transmission in patients with HIV infection after primary QD type 2 (53, 8%) was dominated by HIV infection.

2. When type 2 diabetes and HIV infection come together, it was found that the decompensation of glycemic indicators occurs in 58%. The highest violation of glycemic indicators was observed in patients with HIV infection after primary diabetes (r<0.05). 9.8% of these patients received sulforylurea products and 5.8% received intermediate-acting insulin.

3. According to the SF-36 questionnaire, the physical component of health in patients is  $36.5\pm0.01$  (in the control group, this indicator is  $64.7\pm0.48$ ; r<0,001), the mental component of health is  $30.3\pm1.53$  (in the control group, this indicator is  $63.3\pm0.61$ ; r<0,001) was equal to According to the results of the Gamelton questionnaire, mild depression was observed in 21%, moderate depression in 46.5%, and severe depression in 27.3% of patients.

### REFERENCES

1. Aliev A.V., Rakhimova G.N., Ismailov S.I. Epidemiologiya saharnogo diabeta i prediabeta v Uzbekistane: rezultati skrininga / / Journal klinicheskoy i teoriticheskoy medisini. - 2017.- №2.- The C.58-61.

2. Gulinskaya O, V., Tsirkunov V.M. Insulinorezistentnost u pasientov VICH infektiey // Sovremennie problemi infeksionnoy pathologii cheloveka. - Minsk, - 2016. - 75-78.

3. Christina X.R., Jurgen K.R. VICH 2014/2015. - Berlin, 2015.- 917.

4. Levi D.E. Vich I SPIDa pathogenesis. -Perevod 3-go izdaniya. M.: Nauchniy Mir, 2016. – 736.

5. Sovet ekspertov. Klinicheskie rekomendasii po lecheniyu saharnogo diabeta 2 tipa.- Tashkent.-2019.- 4-10.

6. Alter G., HeckermanD., SchneidewindA. etal. HIV-1 adaptation to NK-cell-mediated immunepressure //Nature.- 2014.-R.76-79.

7. American Diabetes Association. "Standards of medical care in diabetes – 2018 abridges for primary care providers"/ Clinical Diabetes 36.1 (2018):14-37.

8. Davies, Melanie J. et al. "Management of hyperglycaemia in type 2 diabetes,2018. A consensus report by the American Diabetes Association (ADA) and the EASD". Diabetologia (2018):1-38.

9. UNAIDS. Global HIV & AIDS statistics. - 2020

10. Ledwaba L, Tavel AJ, Paul Khabo P et al. Pre-ART Levels of Inflammation and Coagulation Marfers Are Strong Predictors of Death in a South African Cohort with Advanced HIV Disease.//PLoS One. -2012

11. Incidence and Risk Factors for Prediabetes and Diabetes Mellitus Among HIV-infected Adults on Antiretroviral Therapy: A Systematic Review and Metaanalysis. Nansseu JR, Bigna JJ, Kaze AD, NoubiapJJ.Epidemiology. 2018 May;29(3):431-441. doi: 10.1097/EDE.000000000000815.