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Different Forms of Ischemic Heart Diseases and Separate Components of Metabolic Syndrome

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Abstract: Coronary heart disease (CHD) is one of the most significant medical and social problems of modern medicine. This is due to the widespread prevalence of this disease and high disability and mortality due to coronary heart disease.One of the most promising ways to combat IHD is prevention based on the timely identification and elimination of various risk factors (RF) for this disease. The work uses modern methods recommended by WHO for population studies.A representative sample of 1335 people from the unorganized male population of 20-69 years of the city of Bukhara was examined. The research program included a survey on a standard WHO questionnaire to identify angina pectoris and myocardial infarction, as well as ECG recording. Electrocardiography was performed at rest on the 6-NEK electrocardiograph in 12 common leads. According to the data obtained, the frequency of various manifestations of coronary heart disease in the structure of all cases of coronary heart disease among individuals with various RF is ambiguous (see table). On the contrary, the prevalence of the painless form of coronary heart disease was greatest among individuals who had a combination of all four of the considered RFs, and least often this form of coronary heart disease was found among people without RF. So the frequency of cases of myocardial infarction (1 case) among people with MS was more than 4 times higher than among people without RF (1 case), however, these differences were not statistically significant. The results of a population study in Tashkent indicate that the presence of NTG and metabolic syndrome leads to a violation of the typical clinical picture of IHD - [5].

Keywords: Cardiac Ischemia, Hyperlipidemia, Increased Glucose Tolerance, Obesity, Metabolic Syndrome.

Introduction Coronary heart disease (CHD) is one of the most significant medical and social problems of modern medicine. This are due to the widespread prevalence of this disease and high disability and mortality due to CHD [3]. One of the most promising ways to combat IHD is prophylaxis based on the timely identification and elimination of various risk factors (RF) for this disease [3].However, the prevalence of RF and their significance among different population groups can vary significantly [4]. However, the outcome of coronary heart disease with various manifestations of this disease is ambiguous [7]. In this regard, the study of the prevalence of various forms of coronary heart disease with individual RF and their combinations is of great importance. Recent studies have shown [8] that the main FR of IHD include arterial hypertension (AH), obesity, hypercholesterolemia (HA), and insulin resistance. When these RFs are combined, they speak of metabolic syndrome (MS), which plays an important role in the formation of IHD and mortality from this disease [8].The results of a population study in Tashkent indicate that the presence of NTG and

metabolic syndrome leads to a violation of the typical clinical picture of IHD - [5]. The active attention of scientists to MS is due to its close relationship with diseases of the cardiovascular system [2, 7]. This relationship is expected, since most components of metabolic syndrome are independently related to risk factors for the development of coronary heart disease [1, 9]. So, according to the INTERHEART study, the risk of developing myocardial infarction in people with dyslipidemia is 3.87 times higher, with diabetes mellitus 3.08 times, with arterial hypertension 2.48 times and with abdominal obesity 2.22 times [10] . Based on the foregoing, of particular interest is the question of the presence of a relationship between the components of the MS and various manifestations of coronary heart disease.

Goal. To study the relationship between the components of MS and various manifestations of coronary heart disease.

Material and methods. The work uses modern methods recommended by WHO for population studies. A representative sample of 1335 people from the unorganized male population of 20-69 years of the city of Bukhara was examined. The research program included a survey on a standard WHO questionnaire to identify angina pectoris and myocardial infarction, as well as ECG recording. Electrocardiography was performed at rest on the 6-NEK electrocardiograph in 12 common leads. Electrocardiograms were evaluated from the perspective of the Minnesota Code (MK).IHD was classified in accordance with the WHO recommendations for population studies (by priority) according to the following criteria: a certain myocardial infarction - the presence of cicatricial changes on the ECG (categories 1-1.2 MK);angina pectoris (pain behind the sternum and / or / in the left hand that occurs after physical exertion and lasts up to 10 minutes after the cessation of physical activity);painless coronary heart disease - in the presence of ischemic changes on the ECG (categories 4-1.2 and 5-1.2 MK) in the absence of left ventricular hypertrophy, angina pectoris and categories 1-1.2 MK; possible coronary heart disease, including possible myocardial infarction by ECG (categories 1-2-8 and 1-3 MK), possible myocardial ischemia (categories 4-3, 5-3 MK), arrhythmic form (categories 6-1.2; 7- 1 and 8-3 MK), myocardial ischemia in the presence of left ventricular hypertrophy (categories 4-1.2 and 5-1.2 in the presence of 3-1.3 MK).Glucose tolerance was studied by conducting a glucose tolerance test (TSH) with the determination of fasting glycemia, as well as 1 and 2 hours after taking the in 38 75 g. glucose. Hypercholesterolemia was recorded at a cholesterol level of >260 mg%. Obesity was detected by the level of the Quetelet index (calculated by the formula - weight / height 2 x100). At an index level of> 0.30, obesity was recorded. Persons with all four of the considered RFs were combined into one group — the metabolic syndrome (MS) group. This report addresses 388 cases of a combination of coronary heart disease with various risk factors.

Results and discussion. According to the data obtained, the frequency of various manifestations of coronary heart disease in the structure of all cases of coronary heart disease among individuals with various RF is ambiguous (see table). The proportion of myocardial infarction was highest among people with obesity, and least of all this form of coronary heart disease was found among people without RF. It should be noted that the differences in the frequency of cases of myocardial infarction among people with hypertension, NTG, and GC were statistically significantly different from the frequency of cases of this form of IHD among people without studied RF.

Table 1. The proportion of various manifestations of IHD in the structure of this disease among individuals with individual components of the metabolic syndrome

Risk factors (RF)	Myocardialinfarction	Anginapectoris	Pain-free form of IHD	PossibleIHD
Without RF (n=33)	3,04	42,42	9,09	45,45
AH (n=97)	18,56 *	25,77	14,43	41,23
Obesity (n=76)	25,00	21,05 *	15,79	38,15
IGT (n=104)	17,31 *	26,92	14,42	41,35
HCl (n=71)	23,94 **	38,03	5,63	32,39
4 RF (MS) (n=7)	14,28	28,57	28,57	28,57

Note: the table shows the reliability of differences in indicators relative to the group without studied RF.

Among individuals without RF studied, the frequency of exertional angina was higher than in groups with risk factors. At the same time, statistically significant differences were revealed between the frequency of IHD in the group without RF and the frequency of IHD among obese people. On the contrary, the prevalence of the painless form of coronary heart disease was greatest among individuals who had a combination of all four of the considered RFs, and least often this form of coronary heart disease was found among people without RF. It should be noted that the incidence rates of the painless form of coronary heart disease among people with hypertension, NTG, and obesity did not differ significantly. Possible coronary artery disease most often occurred among individuals without studied RF, and less often with metabolic syndrome. It should be noted that the revealed rather large differences between some indicators were not statistically significant. This phenomenon, to a certain extent, can be explained by the small number of observations in these groups. So the frequency of cases of myocardial infarction (1 case) among people with MS was more than 4 times higher than among people without RF (1 case), however, these differences were not statistically significant.

Conclusion

1. The presence of RF is associated with an increase in the structure of coronary heart disease in the proportion of such forms of this disease as myocardial infarction and painless coronary artery disease.
2. Among people with MS there is an increased risk of the formation of painless manifestations of coronary heart disease.
3. In the implementation of treatment and prophylactic measures in relation to coronary heart disease, it seems appropriate to take into account the presence of the considered RF. In this case, special attention should be given to persons with painless forms of coronary heart disease.

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