



DEPENDENCE OF HEMOSTASIS DISORDERS IN PATIENTS WITH METABOLIC SYNDROME FROM THE REGION OF RESIDENCE

Allamurodova Feruza Yakubovna

Bukhara State Medical Institute, Bukhara, Uzbekistan

Annotation

Metabolic syndrome is a complex symptom complex that manifests itself together with arterial hypertension, abdominal-visceral obesity, dyslipidemia, impaired glucose tolerance, insulin resistance, hyperinsulinemia, hyperuricemia, microalbuminuria, hemostasis disorders.

During the study, laboratory analyzes of urban and rural residents and their deviations from the norm were analyzed, and the importance of the place of residence of the population in the development and complications of the metabolic syndrome was studied.

Keywords. Metabolic syndrome, diabetes mellitus, hypertension, hemostasis, platelets, hypercoagulation.

Research Relevance

Metabolic syndrome is one of the most important problems of medicine. This is because, firstly, this syndrome occurs in 25-35% of the world's population, [1] and secondly, compared to patients without metabolic syndrome, patients with this syndrome have a 2-3 times greater risk of death from cardiovascular diseases, type 2 and the risk of developing diabetes is 5-9 times higher. [2,9] Metabolic syndrome is a complex symptom complex, manifested together with arterial hypertension, abdominal-visceral obesity, dyslipidemia, impaired glucose tolerance, insulin resistance, hyperinsulinemia, hyperuricemia, microalbuminuria, hemostasis disorders. [3,11-20] In 92% of cases, arterial hypertension is found to be combined with 2-3 of the above pathologies. Arterial hypertension shortens life expectancy in men by 8-10 years, and in women it reduces to 5-6 years. All of these increase coronary risk.[4,5]

Also, every 10% increase in body mass is accompanied by an increase in plasma cholesterol concentration by 0.3 mmol/l; every extra 4.5 kg of body weight increases systolic blood pressure by 4 mm Hg in men and 4.2 mm Hg in women. leads to an increase to The combination of obesity with arterial hypertension increases the risk of ischemic heart disease by 2-3 times, and the risk of cerebral stroke by 7 times. In addition, prothrombotic and fibrinolytic activity of blood is disturbed in patients with





metabolic syndrome. In patients with metabolic syndrome, the effect of platelets on this syndrome is associated with hyperaggregation of platelets, resulting in disturbances in hemodynamic factors, an increase in the level of fibrinogen and blood clotting factors leading to hypercoagulation, and hypofibrinolysis.

In fact, hemostasis is a biological system that ensures the liquid state of blood, the structural integrity of the vascular wall, stops and prevents bleeding, and quickly forms a thrombus when blood vessels are injured. [6,8,12-21] The process of hemostasis can be divided into several stages that complement each other. These stages are manifested in the narrowing of local blood vessels, adhesion of platelets to the injured blood vessel wall, formation of platelet aggregates and their fusion with fibrin. Also, the restoration of blood flow is completed by the process of fibrinolysis. During the implementation of each stage, there is a mutual relationship between the blood and the vascular wall. [7,10,18]

The dependence of changes in the hemostasis system on living conditions in patients with metabolic syndrome is one of the issues that have not been fully studied yet. Especially in the conditions of Uzbekistan, several questions remain open regarding the level of morbidity of urban and rural residents with metabolic syndrome and the specificity of changes in various systems resulting from it.

The goal: Determining the specificity of changes in the hemostasis system of urban and rural patients with excess body weight.

Research material and methods: 60 patients with metabolic syndrome who applied to Kogon city and district medical associations were selected for the study (30 from urban and 30 from rural residents). Each patient underwent laboratory tests such as anthropometry, general blood analysis, general urinalysis, biochemical blood analysis, coagulogram, glycohemoglobin amount, lipid spectrum, electrocardiography, ultrasound examination (liver, kidney), ophthalmoscopy.

Research results: The patients selected for the study were divided into several groups according to age, sex, level of arterial hypertension, type of diabetes, hepatomegaly. According to him, there were 3 people aged 40-50, 20 people aged 51-60, and 37 people aged 61 and older. 53% of them (32 people) were women. 22 patients had 1st degree, 30 had 2nd degree, and 8 had 3rd degree arterial hypertension. Type II diabetes was detected in 7 patients, hepatomegaly was detected in 19 patients as a result of objective and instrumental examination. (table 1.)





Table 1. Demographic data of urban and rural population

Signs	Age			Sex		Arterial hypertension			Diabetes		Hepatomegaly
	40-50	51-60	61 <	A woman	Male	Level 1	Level 2	Level 3	Type I	Type II	
City dwellers	2	10	18	14	16	10	14	6	-	5	11
Villagers	1	10	19	18	12	12	16	2	-	2	8
Total:	3	20	37	32	28	22	30	8	-	7	19

In addition, the results of calculating the body weight index (BMI) can be divided into 4 groups: 1. There are 4 patients living in the city and 3 patients living in the countryside with a BMI of 25-29; 2. 23 of the patients with TVI 30-35 live in the city, 16 live in the village; 3. Of the patients with TVI 36-39, 8 are from the city, and 3 are from the countryside; 4. 2 out of 3 patients with TVI 40 and above live in the city. (Figure 1)

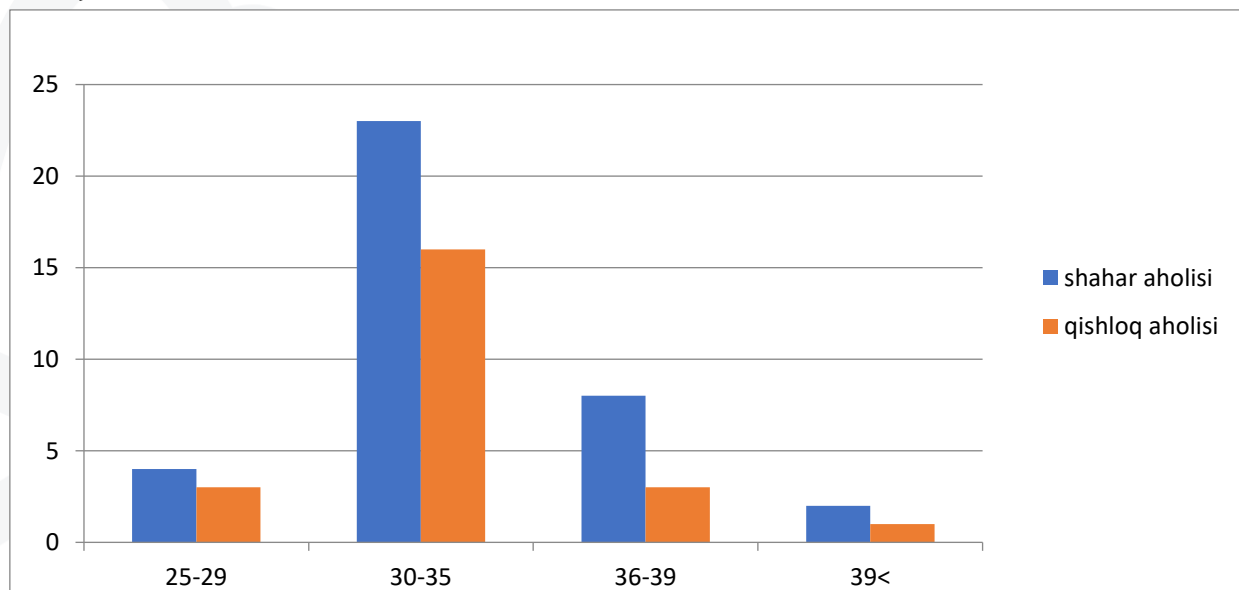


Figure 1. Comparative analysis of the population taken for the study according to the body mass index

It is known that physical activity among people living in rural areas is much higher than physical activity among people living in cities. Taking this into account, the body weight index of patients selected from 30 urban and 30 rural residents with metabolic syndrome was calculated in this study.



When comparing the obtained results, it was found that the average body weight index is higher among urban residents compared to rural residents (Figure 2).

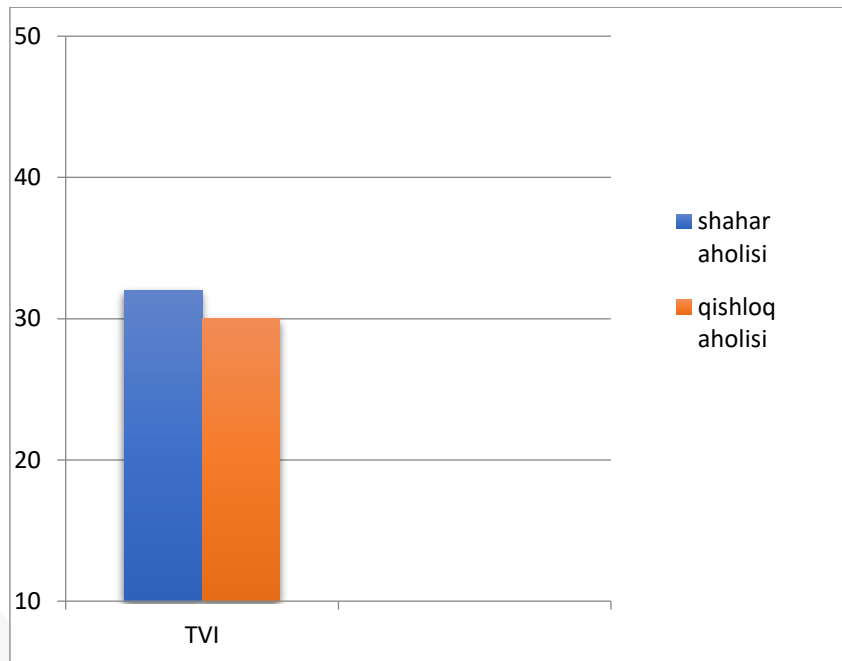


Figure 1. Comparison of the average TVI of patients in the control group, taking into account the region of residence.

When comparing the changes in the hemostasis system of the population taken for the study, changes were mainly observed in the secondary hemostasis. It was observed that prothrombin time decreased in urban residents, prothrombin index increased in urban residents, partially activated thromboplastin time decreased in rural residents, and fibrinogen content decreased in rural residents. When we evaluated the coagulogram in general, these indicators showed that hypercoagulation was observed more often in urban residents (Table 2).

Table 2 Evaluation of the hemostasis system of urban and rural residents

Checked indicators	PTI Σ	PTV Σ	ACTV Σ	MNO Σ	Fibrinogen Σ	p
In the city population	77.12 \pm 1.2	14.34 \pm 0.55	31.64 \pm 1.25	1.33 \pm 0.21	4.9 \pm 0.78	p<0.05
In the rural population	71.55 \pm 3.5	14.7 \pm 0.42	28 \pm 2.56	1.33 \pm 0.28	4.5 \pm 0.92	p>0.05



Summary

It was noted that the body weight index, which is the most common diagnostic criterion of metabolic syndrome, is higher in urban residents. According to the results of the study, the number of complications of metabolic syndrome and complications related to hemostasis disorders are more common in urban residents than in rural residents.

References

1. Boltayev K.J., Naimova Sh.A. Risk factors of kidney damage at patients with rheumatoid arthritis // WJPR (World Journal of Pharmaceutical Research). – 2019. Vol 8. Issue 13. – P. 229 – 235.
2. Naimova Sh.A. Principles of early diagnosis of kidney damage in patients of rheumatoid arthritis and ankylosing Spondiloarthritis// British Medical Journal – 2021. April. Volume 1. Issue 1. – P. 5-11.
3. Sean Campbell, in Contemporary Practice in Clinical Chemistry (Fourth Edition), 2020
4. Александров О.В., Алехина Р.М., Григорьев С.П., Ежова И.С., Золкина И.В. Метаболический синдром // Российский медицинский журнал. - 2006. - №6. - С. 50-55.
5. Бутрова С.А. От эпидемии ожирения к эпидемии сахарного диабета // Consilium medicum. - 2003. – № 9. - С. 524-528
6. Макацария А.Д., Передеряева Е. Б., Пшеничникова Т.Б. Метаболический синдром и низкомолекулярные гепарины // Consilium medicum. - 2006. – № 6. - С. 35-41.
7. Мамедов М.Н., Оганов Р.Г. Эпидемиологические аспекты метаболического синдрома // Кардиология. - 2004. - № 9. - С. 4-8
8. Сибирский медицинский журнал № 4 2007. Е.М. Идрисова, Э.А. Бушкова, Н.М. Краснова, Е.И. Мананко, Т.П. Калашникова, Е.В. Воробьева, Т.Е. Сулова, И.В. Кулагина
9. Сулаймонова Г.Т., Амонов М.К., Рахмонова К.Э. Частота выявляемости факторов риска хронической болезни почек у сельского населения. // Вестник науки и образования № 24(102). Часть 2. 2020. Стр 79-85.
10. Зиновкина В.Ю., Висмонт Ф.И., Касап В.А. 3 – 63 Нарушения гемостаза: Метод. реком. – Мн.: МГМИ, 2000. - с.
11. Anvarovna N. S. Features Of Kidney Damage at Patients with Ankylosing Spondiloarthritis //Texas Journal of Medical Science. – 2021. – Т. 3. – С. 18-22.





12. Naimova N. S. et al. Features of coagulation and cellular hemostasis in rheumatoid arthritis in patients with cardiovascular pathology //Asian Journal of Multidimensional Research (AJMR). – 2019. – Т. 8. – №. 2. – С. 157-164.
13. Наимова Ш. А. The degree of secondary osteoporosis in rheumatological patients and ways of its prevention //Новый день в медицине. – 2020. – №. 1. – С. 56-58.
14. Anvarovich R. A., Anvarovna N. S. The influence of deficiency of microelements in children with bronchial hyperreactivity //Вестник науки и образования. – 2020. – №. 24-2 (102).
15. Naimova S. A. Principles of early diagnosis of kidney damage in patients of rheumatoid arthritis and ankylosing spondiloarthritis //British Medical Journal. – 2021. – Т. 1. – №. 1.
16. Алиахунова М. Ю., Наимова Ш. А. Features of kidney damage at patients with rheumatoid arthritis //Новый день в медицине. – 2020. – №. 2. – С. 47-49.
17. Наимова Ш. А., Латипова Н. С., Болтаев К. Ж. Коагуляционный и тромбоцитарный гемостаз у пациентов с ревматоидным артритом в сочетании с сердечно-сосудистом заболеванием //Инфекция, иммунитет и фармакология. – 2017. – №. 2. – С. 150-152.
18. Наимова Ш. А. Таълим соҳасидаги инновацион педагогик фаолиятнинг аҳамияти //Та'лим фидойлари. – 2022. – Т. 14. – №. 1. – С. 103-107.
19. Наимова, Ш.А. COVID-19 ПАНДЕМИЯ И КОМОРБИДНОСТЬ РЕВМАТИЧЕСКИХ ЗАБОЛЕВАНИЯ // ORIENSS. 2022. №6. URL: <https://cyberleninka.ru/article/n/covid-19-pandemiya-i-komorbidnost-revmaticheskikh-zabolevaniya>
20. Наимова Н. Ш., Хамидова Н. К., Азамов Б. З. Особенности коагуляционного и клеточного гемостаза при ревматоидном артрите у лиц с сердечно-сосудистой патологией //Новый день в медицине. – 2019. – №. 2. – С. 219-222.
21. Наимова Ш. А., Рузиева Ф. А. Особенности почечной коморбидности при ревматологических заболеваниях //Вестник науки и образования. – 2020. – №. 24-2 (102). – С. 74-78.