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PSYCHOEMOTIONAL DISORDERS IN PATIENTS WITH METABOLIC SYNDROME: EFFECTS OF PHYSICAL REHABILITATION AND INDIVIDUALIZED LOSARTAN THERAPY

**Khusainova Munira Alisherovna, Assistant
Department of Propaedeutics of Internal Diseases
Samarkand State Medical University**

Abstract: This study evaluated psychoemotional disorders in patients with metabolic syndrome during physical rehabilitation or individualized antihypertensive treatment. Sixty-nine randomized patients aged 30–62 years were followed for six months in three groups. Depression was detected more sensitively by the Zung scale than by HADS-D, 56% versus 7% respectively ($p<0.05$). Anxiety affected 29% of patients, while combined anxiety and depression occurred in 4%. Physical training reduced depression from 50% to 25% after one month and 20% after six months, whereas losartan reduced depressive and anxiety symptoms during routine clinical follow-up throughout rehabilitation.

Keywords: metabolic syndrome; anxiety; depression; Zung questionnaire; losartan.

ПСИХОЭМОЦИОНАЛЬНЫЕ РАССТРОЙСТВА У ПАЦИЕНТОВ С МЕТАБОЛИЧЕСКИМ СИНДРОМОМ: ВЛИЯНИЕ ФИЗИЧЕСКОЙ РЕАБИЛИТАЦИИ И ИНДИВИДУАЛИЗИРОВАННОЙ ТЕРАПИИ ЛОЗАРТАНОМ

**Хусаинова Мунира Алишеровна
ассистент кафедры пропедевтики внутренних болезней
Самаркандский государственный медицинский университет**

Аннотация: В исследовании оценивалась динамика психоэмоциональных расстройств у пациентов с метаболическим синдромом на фоне физических тренировок и индивидуализированной антигипертензивной терапии. В исследование были включены 69 рандомизированных пациентов в возрасте 30–62 лет, наблюдавшихся в течение шести месяцев. Шкала Цунга выявляла

депрессию значительно чаще, чем HADS-D: 56% против 7% соответственно ($p < 0,05$). Тревожные расстройства выявлены у 29% пациентов, сочетанные тревожно-депрессивные состояния — у 4%. Физические тренировки снизили частоту депрессии с 50% до 25% через месяц и до 20% через шесть месяцев, тогда как лозартан обеспечивал более выраженную динамику тревоги и депрессии.

Ключевые слова: метаболический синдром; тревога; депрессия; опросник Цунга; лозартан.

Introduction: Metabolic syndrome is a multifactorial condition characterized by cardiometabolic abnormalities, including arterial hypertension, impaired carbohydrate metabolism, and excess adiposity. Its clinical significance extends beyond cardiovascular risk because metabolic disturbances may coexist with psychological symptoms and influence everyday functioning. Anxiety and depression are frequently discussed in patients with cardiometabolic disorders, yet their relationship with metabolic syndrome remains complex and incompletely defined.

Stress may affect neuroendocrine regulation, behavior, adherence, and activity. At the same time, hypertension, obesity, and metabolic abnormalities may contribute to emotional distress through biological and psychosocial mechanisms. Their coexistence can create a clinical pattern in which reduced activity and persistent symptoms negatively influence rehabilitation.

The present study focused on prevalence and severity of anxiety and depression among patients with metabolic syndrome and examined whether physical rehabilitation or individualized losartan therapy could modify these manifestations. Two psychometric approaches were applied: the Zung scale and the Hospital Anxiety and Depression Scale. Patients were assessed at baseline, one month, and six months, allowing evaluation of temporal changes.

This approach is clinically relevant because metabolic syndrome management should address blood pressure, metabolic abnormalities, and accompanying psychoemotional disturbances during comprehensive patient care. Identification of

sensitive screening instruments and effective rehabilitation strategies may appropriately improve individualized care and long-term management of this complex patient population in routine clinical practice settings.

Aim of the study: To evaluate the frequency and severity of anxiety and depression in patients with metabolic syndrome and determine the effects of differentiated physical rehabilitation and individualized losartan therapy during six months of observation.

Materials and methods. The investigation included 74 patients with metabolic syndrome aged 30–62 years; 69 were randomized because five declined six-month follow-up. Participants were prospectively allocated to three groups for comparative follow-up. Main group 1 included 25 patients receiving a differentiated physical rehabilitation program based on cycle ergometer or treadmill training, individualized according to body weight, exercise tolerance, and the predominant clinical syndrome. Main group 2 included 24 patients receiving conventional physical rehabilitation combined with individualized losartan therapy. The control group comprised 20 patients receiving traditional rehabilitation at outpatient facilities.

Groups were comparable at baseline by age, sex, and associated pathology. Mean age was 43.6 ± 1.7 years in group 1, 42.9 ± 2.2 years in group 2, and 47.0 ± 2.6 years in controls. Anxiety and depression were assessed at baseline, one month, and six months using the Zung questionnaire and HADS. The Zung scale contained 20 items scored from 1 to 4 and classified results as normal, mild, moderate, or severe depression. HADS provided separate anxiety and depression subscales for psychological assessment at each stage.

For group 2, individualized losartan therapy started at 50 mg daily, with dose adjustment according to ambulatory blood pressure monitoring. Statistical comparisons were performed across all follow-up stages, with differences considered statistically significant at $p < 0.05$. The analysis focused on longitudinal changes in prevalence and severity of anxiety and depression during the rehabilitation follow-up period.

Results. At baseline, mild depression by Zung was identified in 27 of 68 assessed patients (56%), with no moderate or severe depressive cases. HADS-D identified depression in only 5 of 68 patients (7%), and all cases were subclinical. Thus, Zung showed significantly greater sensitivity for detecting depression in metabolic syndrome ($p<0.05$). HADS-A identified anxiety in 20 of 69 patients (29%), while combined anxiety and depression occurred in 3 patients (4%).

Baseline Zung depression frequencies were 50% in group 1, 25% in group 2, and 35% in the control group. After one month, depression decreased to 25% in group 1, remained 29% in group 2, and 31% in the control group. After six months, depression in group 1 declined further to 20% ($p<0.05$ versus baseline). In group 2, Zung-detected depression decreased from 33% to 29% after one month and 25% after six months.

HADS-D responded clearly to losartan: depression disappeared in group 2 after one month and remained absent at six months. In group 1, HADS-D depression decreased from 12.5% to 5% after six months. HADS-A anxiety in group 2 fell from 33% at baseline to 12.5% after one month and 10% after six months. Mean HADS-A score decreased from 5.9 ± 0.8 to 3.9 ± 0.6 and 3.7 ± 0.6 at one and six months ($p<0.05$). In controls, anxiety increased from 25% to 50% by six months. Combined anxiety-depressive disorders disappeared in group 2 after only one month. Overall, these findings support clinically.

Conclusions: In patients with metabolic syndrome, psychoemotional disorders were common, with anxiety detected in 29% and depression identified by the Zung scale in 56% at baseline evaluation. The Zung instrument was substantially more sensitive than HADS-D for detecting depression. Differentiated physical rehabilitation reduced depression frequency from 50% to 20% over six months. Individualized losartan therapy produced earlier improvement, eliminating HADS-D depression and combined anxiety-depressive disorders within one month and maintaining this effect for six months. Without adequate rehabilitation, anxiety increased from 25% to 50%. These findings support integrated cardiovascular,

metabolic, physical, and psychoemotional management during prolonged follow-up and structured clinical rehabilitation.

References.

1. Ziyadullaev, S. K., Sultonov, I. I., Dushanova, G. A., & Akbarovna, K. S. (2021). The Effectiveness Of Pharmacotherapy For Dmards With Ra Depending On The C3435t Polymorphism Of The Mdr1 Gene. *Int. J. of Aquatic Science*, 12(3), 2908-2916.
2. Islomovich, S. I. (2024). GENDER CHARACTERISTICS OF THE CURRENT RHEUMATOID ARTHRITIS. *International journal of medical sciences*, 4(10), 3-8.
3. Ilkhom, S. (2023). CAJAM–VOLUME 1. ISSUE 1. 2023. *Central Asian Journal of Advanced Medicine*, 1(01), 16-19.
4. Kireev, V. V., Sultonov, I. I., Ziyadulaaev, S. K., Suyarov, A. A., Aripova, T. U., Usmanbekova, K. T., & Nasretdinova, M. T. (2021). Genetic Engineered Preparations-An Innovative Approach in the Treatment of Rheumatoid Arthritis. *Annals of the Romanian Society for Cell Biology*, 25(3), 4114-4119.
5. Sultonov, I. I., Xasanov, F. S., Eshmuratov, S., Uralov, R. S., Shukurova, D., & Ziyadullayev, S. X. Predictors of Systemic Lupus Erythematosus: A Case-control Study. *International journal of health sciences*, 6(S10), 175-182.
6. Khusainova, M. A., Vakhidov, J. J., Khayitov, S. M., & Mamadiyorova, M. M. (2023). Cardiac arrhythmias in patients with rheumatoid arthritis. *Science and Education*, 4(2), 130-137.
7. Yarmatov, S., Khusainova, M., & Djabbarova, N. (2023). STUDY OF QUALITY OF LIFE INDICATORS IN PATIENTS WITH CORONARY HEART DISEASE USING THE SF-36 QUESTIONNAIRE. *Бюллетень студентов нового Узбекистана*, 1(7), 58-64.