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ASSOCIATION OF ANXIETY AND DEPRESSION WITH THE SEVERITY OF UNSTABLE ANGINA IN HOSPITALIZED PATIENTS

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Abstract: This study examined the relationship between anxiety, depression, age, and perceived severity of unstable angina in hospitalized patients. Fifty-five individuals with unstable angina were evaluated using the Seattle Angina Questionnaire, SF-36, Zung anxiety and depression scales, and additional clinical assessments. Angina severity correlated strongly with anxiety (r=0.66) and depression (r=0.64), while age also showed a significant association (r=0.62). Anxiety occurred in 40% of participants, and subclinical depression in 12.7%. Multivariable analysis confirmed anxiety, depression, and age as independent contributors to perceived angina severity. These findings support routine early psychosomatic assessment.

Keywords: unstable angina; anxiety; depression; Seattle Angina Questionnaire; ischemic heart disease.

СВЯЗЬ ТРЕВОГИ И ДЕПРЕССИИ С ВЫРАЖЕННОСТЬЮ НЕСТАБИЛЬНОЙ СТЕНОКАРДИИ У ГОСПИТАЛИЗИРОВАННЫХ ПАЦИЕНТОВ

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Аннотация: В исследовании изучена связь тревоги, депрессии и возраста с выраженностью нестабильной стенокардии у госпитализированных пациентов. Обследовано 55 больных с нестабильной стенокардией. Для оценки использовали Сиэтловский опросник стенокардии, SF-36, шкалы тревоги и депрессии Цунга, а также дополнительные клинические методы.

Выраженность стенокардии имела сильную корреляцию с тревогой (r=0,66) и депрессией (r=0,64), а также была связана с возрастом (r=0,62). Тревога выявлена у 40% пациентов, субклиническая депрессия — у 12,7%. Многофакторный анализ подтвердил значимый вклад тревоги, депрессии и возраста в выраженность стенокардии.

Ключевые слова: нестабильная стенокардия; тревога; депрессия; Сиэтловский опросник стенокардии; ишемическая болезнь сердца.

Introduction: Ischemic heart disease remains a cause of morbidity, disability, and mortality, making identification of factors that modify its clinical expression important. Anxiety and depression deserve particular attention because they may affect symptom perception, treatment adherence, healthcare utilization, and functional recovery. Emotional distress can alter interpretation of bodily sensations and increase the subjective burden of cardiac symptoms.

Unstable angina is clinically important because it may precede myocardial infarction or sudden cardiac death and usually requires urgent hospital assessment. Its diagnosis depends substantially on the patient's description of chest discomfort, making symptom perception especially relevant. Psychological factors may therefore contribute to differences between patients with similar cardiovascular conditions.

The original investigation examined hospitalized patients with unstable angina and assessed relationships between angina severity and psychosomatic characteristics. The Seattle Angina Questionnaire quantified disease-related limitations, while SF-36 provided an additional assessment of pain. Anxiety and depressive symptoms were evaluated using the Zung scales. Alexithymia and problematic alcohol consumption were also considered, together with laboratory, electrocardiographic, and renal parameters.

Understanding these associations may improve interpretation of disproportionate anginal complaints. It may also support clinical assessment when symptom severity cannot be explained adequately by somatic findings. Evaluating emotional

status alongside cardiovascular variables could contribute to individualized management of unstable angina during hospitalization and follow-up care.

Aim of the study: To determine the relationship between anxiety, depression, age, and the perceived severity of unstable angina and to identify the psychological and somatic factors most strongly associated with anginal manifestations.

Materials and methods. The study included 55 patients hospitalized in the cardiology department of City Hospital No. 3 in Irkutsk with unstable angina. Mean age was 60±11.4 years; women represented 36.4% and men 63.6%. Angina severity was assessed with the Seattle Angina Questionnaire, evaluating physical limitation, angina stability, angina frequency, treatment satisfaction, and disease perception. Pain intensity was additionally assessed using the BP subscale of the SF-36 questionnaire.

Psychological status was investigated with the Zung anxiety and depression scales. The Hamilton Anxiety Scale, Montgomery–Åsberg Depression Rating Scale, and Toronto Alexithymia Scale were also applied to characterize emotional and personality-related features. AUDIT was used to assess problematic alcohol consumption. Laboratory evaluation included blood glucose, total cholesterol, troponin T, and estimated glomerular filtration rate calculated using the MDRD formula. A standard 12-lead electrocardiogram was recorded.

Associations between angina severity and demographic, psychological, and somatic variables were examined using correlation analysis. Differences in questionnaire and clinical scale values were compared according to sex and presence of anxiety or depression. Multivariable analysis estimated the relative contribution of investigated factors to angina severity. Statistical significance was determined from reported probability values, with $p<0.05$ considered significant. The analysis evaluated whether psychological variables retained an association with angina severity after consideration of age and somatic parameters. Results were expressed using correlation coefficients and regression beta values studied within the cohort.

Results. Among the 55 hospitalized patients, anxiety was identified in 40%: 34.5% had moderate anxiety and 5.5% had pronounced anxiety. Subclinical depression was detected in 12.7% of participants. The Seattle Angina Questionnaire demonstrated a strong relationship with anxiety ($r=0.66$; $p<0.000001$) and depression ($r=0.64$; $p<0.000001$). The BP pain subscale of SF-36 was moderately associated with anxiety ($r=-0.37$; $p=0.006$) and depression ($r=-0.48$; $p=0.00017$).

Age showed a significant association with the Seattle Angina Questionnaire score ($r=0.62$; $p=0.000001$) and with pain intensity assessed by the SF-36 BP subscale ($r=-0.44$; $p=0.00097$). Women had a higher Seattle score than men, 69.9 versus 61.2 ($p=0.02$), while the BP score was lower in women, 31.9 versus 48.1 ($p=0.01$). Women also had higher anxiety scores, 38.7 versus 31.6 ($p=0.0045$), and depression scores, 44.9 versus 36.9 ($p=0.0007$). After adjustment for anxiety, the sex difference in angina severity was no longer significant.

Patients with anxiety had higher Seattle scores than those without anxiety, 74.5 versus 57.8 ($p=0.000002$). Patients with depression similarly showed higher values, 74.9 versus 62.9 ($p=0.02$). Alexithymia was associated with more severe angina, with scores of 68.9 versus 60.5 ($p=0.02$). Angina severity correlated with glomerular filtration rate ($r=-0.48$; $p=0.0003$), but not significantly with ECG changes, glucose, troponin T, or cholesterol. Multivariable analysis identified anxiety ($\beta=0.398$), depression ($\beta=0.278$), and age ($\beta=0.369$) as influential factors. Conversely, glucose, creatinine, cholesterol, GFR, troponin T, and ECG changes did not significantly influence angina severity clinically.

Conclusions: In hospitalized patients with unstable angina, perceived angina severity was strongly associated with anxiety and depression and was also related to age. Anxiety occurred in 40% of participants, while subclinical depression was found in 12.7%. Women reported greater anxiety and depression, and their apparent difference in angina severity disappeared after adjustment for anxiety. Multivariable analysis identified anxiety, depression, and age as the principal contributors to angina severity. Somatic parameters, including glucose, cholesterol,

troponin T, and ECG findings, showed no significant independent influence. These results support psychological assessment alongside cardiovascular evaluation in unstable angina patients during routine clinical practice.

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