Views on the Occurrence and Detection of Psycho-Emotional Disturbances in Patients with Coronary Heart Disease (Literature review)

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ABSTRACT

The reported prevalence of neurovegetative disorders in patients with cardiac disease varies widely. It has long been recognised that mild forms of depression are found in almost two thirds of patients in hospital following acute myocardial infarction (AMI), with major depression typically found in about 15% of patients with cardiovascular disease. This prevalence is more than two to three times that of the general population, although probably not much higher than the predicted lifetime prevalence for the general population.

Keywords: Acute myocardial infarction, chronic heart failure, neurovegetative disorder, phobic disorder, panic disorder, post-traumatic stress disorder

Introduction. Neurovegetative disturbance is a powerful predictor of survival after AMI, as well as in patients with CHF.In depressed patients after AMI, mortality increases threefold, even adjusting for age, sex, smoking, clinical severity using Killip class and left ventricular ejection fraction. An increased mortality among patients with neurovegetative disorders is also characteristic of patients hospitalised with unstable angina pectoris. Anxiety symptoms are part of everyone's life. They have important signalling functions to help us cope with everyday tasks. However, when anxiety occurs without adequate stimuli, it can become a seriously aggravating condition. In fact, the prevalence of anxiety disorders has steadily increased over the past decades, now becoming the seventh most burdensome condition worldwide[2,11]. As with other neurovegetative disorders, self-reported symptoms are crucial for the diagnosis of anxiety disorders, as well as for monitoring treatment success. For evidence-based medicine, an accurate, reliable and valid (i.e., "objective") assessment of patient-reported "subjective" symptoms is essential. The empirical assessment of anxiety imposes a number of conceptual and methodological issues that need to be addressed before a specific instrument can be considered. Currently, scientific publications commonly identify at least four major subtypes of anxiety, including generalised anxiety disorder (GAD), phobic disorders, panic disorder and post-traumatic stress disorder (PTSD). All present with different symptomatology and are assumed to have different etiological conditions. From a measurement perspective,

the first step in selecting an appropriate instrument is to decide whether the assessment will focus on the more general symptoms of anxiety that exist in several autonomic disorders or on the more specific symptoms of one particular disorder[2, 7].

Emotional distress assessment instruments often select items from different domains (e.g., mood, cognition, behavior and somatic symptoms) in order to capture an exhaustive set of explicit indicators of the underlying latent construct. Empirical studies have shown that neurovegetative disturbance can be described by a "three-component" model, with three main components: general distress, physiological hyperexcitement and anhedonia[3,14]. General neurovegetative disturbance is usually present in both depressive and anxiety disorders, whereas symptoms of anhedonia are more common in depressive disorders and symptoms of hyperexcitation are more specific to anxiety disorders, particularly panic disorder and posttraumatic stress disorder.Соответственно, инструменты, разработанные для оценки панических расстройств, чаще включают соматические симптомы (например, учащенное сердцебиение, потливость и одышку), чем инструменты, используемые в основном для ГТР или общей оценки тревоги, которые обычно сосредоточены на оценке настроения, когнитивных функций или поведения. Например, напряжение, нервозность, беспокойство и неспособность расслабиться).

Screening for neurovegetative disorders is often recommended for the detection of comorbid psychiatric disorders in relation to chronic diseases, such as coronary heart disease or diabetes mellitus. In reality, only about half of patients with depressive disorders are identified in primary care practice. Self-reported screening tools can help health services in the busy day-to-day to identify those patients with minimal extra effort (26, 31).

However, a fundamental problem with all established screening tools is that the measurement of a "dimensional" construct must support a "categorical" diagnostic decision.

Thus, for a natural phenomenon, such as depressed mood or anxiety, a threshold value above which a certain condition is likely to be classified as pathology must be defined according to agreed-upon documents, such as the diagnostic and statistical manual of mental disorders International Classification of Diseases (ICD).

Well-tested screening instruments for depressive disorders (e.g., the Patient Health Questionnaire-9 [PHQ-9]) generally provide good sensitivity (i.e., probability of identifying depressed patients; ≥0.85) and specificity (i.e., those identified actually suffer from the disorder; ≥0.85). Screening instruments for neurovegetative disorders tend to produce less favourable results, at least in the clinical population. One reason is that different types of neurovegetative disorders have more heterogeneous symptoms than different types of depressive disorders. Another reason is that normal anxiety responses in clinical samples tend to overlap more with anxiety symptoms expressed in patients diagnosed with an anxiety disorder.

For the treatment of neurovegetative disorders, empirical assessment of key symptoms is necessary to monitor treatment success. Symptoms are usually measured as manifest "observable" variables (e.g., "In the last seven days I was worried about what might happen to me" (Patient Reported Outcomes Measurement Information System [PROMIS] anxiety trait) the underlying "latent" construct(e.g., anxiety). In most recognised tools, anxiety is considered a state variable that can change rapidly over time. If longer recall periods are used (e.g., "State how much anxiety you had... fear of death... during the past month" (Beck Anxiety Questionnaire [BAI]). The manifest variable is thought to measure a more stable aspect of the construct of latent anxiety. Different recall periods may be appropriate, depending on the treatment goal (11, 13).

To date, a wide range of well-validated instruments are available that can be used to monitor neurovegetative disturbances. Most

have been developed using classical test theory (CTT) methods. As self-assessment tools become increasingly important in the medical field, their limitations in measurement and accuracy are more intensively discussed, and other test development methods are of increasing interest.

The most accurate and comprehensive health assessment questionnaires are quite lengthy and complex, resulting in a level of burden on respondents that makes them difficult to use in routine medical care and often leads to serious problems due to missing data. Therefore, relatively short questionnaires are popular instruments today. They represent a compromise between measurement accuracy, range and other desirable characteristics in favour of practicality. These short forms are useful for measuring the health status of large samples, but in small samples or when assessing the test results of individual patients, their low accuracy is of concern [8, 11].

Some tests, such as the Hospital Anxiety and Depression Scale (HADS), provide one scale for anxiety and one for depression in the same instrument to solve the problem of overlapping content. The HADS provides good psychometric criteria for both scales, but how different the two scales are depends on the population studied. The PHQ-4 is an example of an ultrashort screening instrument that also allows anxiety and depression to be assessed using a single instrument. However, the PHQ-4, with two items per scale, is less accurate, useful in large epidemiological studies, but poorly suited to small studies or individual clinical decision-making .

The BAI is a scale that aims to measure aspects of anxiety that are most distinct from the depressive construct. Thus, the BAI focuses more on assessing "hypervigilance" (e.g., heart palpitations/rural palpitations, hand tremors), focusing more on the physical symptoms of anxiety. Thus, the BAI tends to be used to assess panic, phobic or post-traumatic disorders.

Several instruments, such as the Anxiety Screening Questionnaire-15 (ASQ-15) or the GAD-7, have been created primarily for screening autonomic disorders. Self-assessment instruments used to screen for neurovegetative disorders often exhibit less favourable psychometric characteristics than those used to screen for depressive disorders. Nevertheless, if used cautiously, screening instruments can still provide valuable information to the primary care provider. Instruments such as the GAD-7, which are primarily designed for screening purposes, are also valuable and sensitive "outcome" instruments. In addition, thresholds have been established for many "outcome" indicators, such as HADS or STAI, which also allow screening for neurovegetative disorders with good sensitivity and specificity. "Neurovegetative disturbance" has many meanings, ranging from transient feelings of poor mood to serious clinical syndromes that can be severe, leading to disability and recurrent. In addition, some people seem more depressed and resistant, including some signs of depression. Depression is usually accompanied by symptoms such as feelings of depressed mood, loss of interest or pleasure in activities, sleep disturbance, fatigue or impaired concentration (11). Basically, the severity of what is experienced as depression is a continuous variable. However, sometimes we use certain criteria to disaggregate the data. This allows us to organise the information into useful 'diagnostic' groups. There are several ways of doing this. One of the most commonly used is the American Psychiatric Association's Diagnostic and Statistical Manual of Neurovegetative Disorders (DSM-IV), which has evolved over several decades. Certain criteria are used to classify a person as suffering from dysthymia (mood disorder), grief (reaction to loss), adjustment disorder with depressed mood (time-limited reaction to an event) or major depressive disorder (MDD - with a greater number and severity of symptoms associated with depression). All of these syndromal clusters can occur in cardiac patients (22). There are a number of psychological reactions that can potentially occur following an acute medical event. Depressed mood is usually perceived as a reaction to an acute coronary event or, for that matter, to any illness or surgery that is thought

to threaten the life and well-being of the individual. If patients are under complex treatment, this depression may be temporary and therefore classified as an adjustment disorder. Thus, the most common form of depression after acute coronary events is 'adjustment disorder with depressed mood'. This has been observed in control groups without treatment in randomised trials of depression treatment in cardiology patients, who have a marked reduction in depression over time[19]. Although prevention and treatment of any non-neurovegetative disturbances is important for all cardiac patients, patients who meet the criteria for MDD are at high risk of further events and have a particularly poor quality of life. Thus, these patients are in particular need of sensitive detection, accurate diagnosis and careful treatment. The reported prevalence of neurovegetative disorders in patients with cardiac disease varies widely. It has long been recognised that mild forms of depression are found in nearly two-thirds of patients in hospital following acute myocardial infarction (AMI), with major depression usually found in about 15% of patients with cardiovascular disease. This prevalence is more than two to three times that of the general population, although perhaps not much higher than the predicted lifetime prevalence for the general population. It is even more common in patients with chronic heart failure (CHF), typically more than 20%, with prevalence related to the severity of functional class, ranging from 10% in asymptomatic patients to 40% in those with severe functional impairment.Neurovegetative disturbances in patients with CHF are also an independent predictor of mortality and rehospitalisation[23, 26]. Two years after implantable cardioverter-defibrillator implantation, more than a quarter of patients are depressed, with those patients who have experienced more discharges being significantly more likely to be depressed. On average, 15-20% of patients may appear to suffer from major depression after coronary artery bypass surgery, and it is likely that another 15% experience mild depression or significantly depressed mood (29). Given that neurovegetative disturbance is more common in cardiac patients, it might seem that depression leads to cardiovascular disease, cardiovascular disease leads to depression, or perhaps both (30). There is no argument that neurovegetative disturbance is a risk marker for increased incidence of new cardiovascular disease (etiology) and worse outcome in existing cardiovascular disease. In order for neurovegetative disturbance to be causally associated with cardiovascular disease incidence and prognosis, it must be demonstrated that neurovegetative disturbance is a "risk factor" and not simply a "risk marker". This predetermines a longitudinal evaluation of patients, including: objective and prospective measurement of cardiovascular disease; consistent, robust and differentiated relationships; association not explained by known covariates; potential biologically plausible mechanisms; and, ultimately, trial data demonstrating that changing the risk factor alters prognosis. All but the last have been demonstrated for neurovegetative impairment and cardiovascular disease, putting them in the same category as high-density lipoprotein cholesterol or C-reactive protein [33]. On average, etiological studies show that the presence of a neurovegetative disorder doubles the risk of developing new CVDs. Another approach has been to use case-control studies. In the large INTERHEART study, the four most important factors contributing to acute coronary syndromes were complex lipid profile using apolipoprotein B/apolipoprotein A ratio, smoking, psychosocial factors (mainly depression, stress, life events and locus of control) and then diabetes. In the control group, the prevalence of major depression was about the same as in most non-cardiac populations (7%), but ~50% higher in the AMI group. However, this was only about 9% of the attributable risk, less than some other psychosocial factors.

Conclusions: Thus, there are a number of putative mechanisms that are possible from a biological point of view. These include alterations in the autonomic nervous system,

receptor and platelet function, coagulopathic factors such as plasminogen activator inhibitor-1 and fibrinogen, proinflammatory cytokines, endothelial function, neurohormonal factors and genetic connections such as the serotonin transporter mechanism. In addition, neurovegetative disorders are associated with poor compliance with treatment. Neurovegetative impairment is a powerful predictor of survival after AMI, as well as in patients with CHF.In depressed patients after AMI, mortality increases threefold, even adjusting for age, sex, smoking, clinical severity using Killip class and left ventricular ejection fraction. There is also a gradient of dependence on the degree of depression predicting 5-year survival. Increased mortality among patients with neurovegetative disorders is also common in patients hospitalised with unstable angina pectoris.

List of References:

1. Бакулин И.С.,Танашян М.М.,РаскуражевА.А. Эндотелиальная дисфункция и окислительный стресс при церебральном атеросклерозе и возможности их патогенетической коррекции // Нервные болезни 2*2018,С.3-9,http://atm-press.ru; DOI:10.24411/2071-5315-2018-12016
2. В.Е.Голимбетов и др.Связь генов воспалительных факторов с невротизмом, тревожностью и депрессией у мужчин с ишемической болезнью сердца//«Экспериментально-теоретические вопросы» №3,2017.РоссияС.72-77doi:10.17116/nevro20171173174-79
3. Елисеев М.С., Новикова М.А. Мочевая кислота, подагра и кардиоваскулярные заболевания: перспективы применения уратснижающих препаратов//Медицинский совет.2019;12:93-104.DOI:https.org/10/21518/2079-701X-2019-12-93-104
4. КаюмовУ.К., Каландарова У.А., ИбрагимовА.Ю., Саипова М.Л. Распространенность ишемической болезни сердца и смертность от этого заболевания при различных компонентах метаболического синдрома//Новый день в медицине.-Ташкнт, 2019г.-№3-С.138-141(14.00.00,№22)
5. КамиловаУ.К.,РасуловаЗ.Д.,Закирова Г.А.,ТошевБ.Б. Особенности сердечно-сосудистого ремоделирования, уровня нейрогуморальных факторов в зависимости от степени хронической сердечной недостаточности и дисфункции почек//Кардиоваскулярная терапия и профилактика. 2019;18(3).С.35-40.http://dx.doi.org/10.15829/1728-8800-2019-3-35-40
6. Курочкина С.Д., Семенова Е.В., Терещенко Ю.В., Семенкин А.А., Нечаева Г.И. Стенокардия с высоким уровнем тревоги /Журнал«Лечащий врач», Выпуск3-2017С.91-95
7. Anantha-Narayanan M, Garcia S. Contemporary Approach to Chronic Total Occlusion Interventions. Curr Treat Options Cardiovasc Med. 2019 Jan 18;21(1):1.
8. Kamalova M. I., Khaidarov N. K., Islamov Sh.E.// Clinical And Demographic Quality Of Life For Patients With Ischemic Stroke In Uzbekistan ACADEMICIA: An International Multidisciplinary Research Journal https://saarj.com
9. Kamalova M. I., Islamov Sh. E., Khaydarov N.K.// Morphological Changes In Brain Vessels In Ischemic Stroke. Journal Of Biomedicine And Practice 2020, Vol. 6, Issue 5, Pp.280-284
10. Khamdamov B.Z. Indicators of immunocitocine status in purulent-necrotic lesions of the lover extremities in patients with diabetes mellitus.//American Journal of Medicine and Medical Sciences, 2020 10 (7) 473-478 DOI: 10.5923/j.ajmm.2020.-1007.08
11. Kamalova, M. I., Khaidarov, N. K., & Islamov, S. E. (2020). Pathomorphological Features of hemorrhagic brain strokes. Journal of Biomedicine and Practice, 101-105.
12. Kim, J.-M., Stewart, R., Kim, J.-W., Kang, H.-J., Kim, S.-W., Shin, I.-S., et al. (2020). Impact of depression at early and late phases

following acute coronary syndrome on cardiac outcomes. *J. Affect. Disord.* 260, 592–596. doi: 10.1016/j.jad.2019.09.059

13. Kim, J.-M., Stewart, R., Lee, Y.-S., Lee, H.-J., Kim, M. C., Kim, J.-W., et al. (2018). Effect of Escitalopram vs placebo treatment for depression on long-term cardiac outcomes in patients with acute coronary syndrome: a randomized clinical trial. *JAMA* 320, 350–357. doi: 10.1001/jama.2018.9422
14. Pouwer, F., and Nefs, G. (2019). Anxiety is common and costly in T2DM — why psychology matters. *Nat. Rev. Endocrinol.* 15, 567–568. doi: 10.1038/s41574-019-0244-0
15. Pristipino, C., Roncella, A., Pasceri, V., and Speciale, G. (2019). Short-TErm psychotherapy IN acute myocardial infarction (STEP-IN-AMI) trial: final results. *Am. J. Med.* 132, 639–646. doi: 10.1016/j.amjmed.2018.12.025