

PSYCHOLOGICAL ASPECTS OF CARDIOVASCULAR DISEASES

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Summary. *The occurrence of psychological alterations and cardiac disease in many patients exemplifies the complexity of psychosomatic and somatopsychic effects. Psychological factors including depression, anxiety and hostility influence the development, clinical expression and prognosis of heart disease. Accordingly, it is critical that clinically significant levels of distress are identified, both in hospital and after discharge, to target patients who require specific psychological intervention, in addition to conventional cardiac rehabilitation. Ameliorating distress has been shown to improve adherence to treatment advice, such as modifying psychological defence mechanisms, compliance with medication regimens and attendance at exercise programmes.*

Key words: *Cardiological risk factors, hostility, depression, anxiety, psychological defense mechanisms, psychotherapy*

Introduction

The idea that emotions, feelings and social contexts may contribute to the cause of heart disease is not a new one. For centuries, there has been popular, if not scientific, association between the heart and emotions. Of all the parts of the body, the heart holds a place of special distinction in common thinking as the seat of emotion, effort and even of life itself. Our everyday language makes this clear. We speak of heartbreak and heavy-heartedness, of love coming straight from the heart, of putting our heart into our work, of outstanding individuals who are "heart and soul" of their organizations. Metaphorically, as well as physiologically, the heart is crucial to one's identity and social function. Therefore, normal emotional reactions to the development of heart disease often include aspects of shock, fear, anger, guilt, sadness and grief (1).

Cardiovascular disease frequently coexists with psychiatric disorders. The comorbidity of psychiatric and cardiovascular disease is attributable not only to the co-occurrence of two independent illnesses, but also to the development of cardiac disease as a complication of emotional or psychiatric problems and conversely, the development of psychiatric disorders as complications of cardiovascular disease. Psychological factors are implicated in the prognosis of cardiac events and related to the quality of life among survivors and to patients' capacity to adhere to medication and lifestyle modification.

Type A behavior

This behavior pattern was defined by Rosenman and colleagues in 1975 as "an action emotion complex which

is exhibited by those individuals who are engaged in relatively chronic struggle to obtain an unlimited number of poorly defined things from their environment in the shortest period of time and if necessary against opposing efforts of other things or persons in this same environment" (2). The basic characteristics of this pattern are time urgency and impatience, competitive striving for achievement, aggressiveness and easily aroused hostility. Type A behavior pattern is an independent risk factor for the development of coronary disease equivalent in power to smoking or hypertension. A significant interaction was found between type A behavior and age in relation to severity of coronary atherosclerosis after adjusting for standard coronary risk factors (3). That is more complex than simply being a "workaholic" or having "high job involvement" with which it is often confused.

The trait of hostility has received particular attention as a predictor of the development of coronary heart disease. Physiologic autonomic responses to interpersonal stress are altered in hostile individuals, suggesting association between hostility and coronary artery disease. The components of hostility that have been reported to be correlated with chronic heart disease include 3 main categories: cynical thoughts, angry feelings and aggressive behavior (4). A hostile person is "one who has little confidence in his fellow men. He/she sees people as dishonest, unsocial, immoral, ugly and mean and believes that they should suffer for their sins" (5). Reductions in tonic vagal cardiac modulation and shifting of autonomic balance in the direction of sympathetic predominance are hypothesized to be the basic of these relations. Hostility has been linked to clinical depression from a behavioral and physiological perspective through a

common central nervous system abnormality (6). They frequently coexist in a clinical context and may share a similar biochemical deficiency of the neurotransmitter serotonin (7). Knowing that the serotonergic system interacts with other neurotransmitters in complex ways (8) it is conceivable that this could lead to different clinical presentations of serotonin deficiency.

Distressed personality type

There is abundant evidence that depression, anxiety and pathological anger considered as "negative affectivity" increase the risk for cardiac events in patients with coronary heart disease (9). Combination of negative affectivity and social inhibition defines a persistent "distressed personality type" and predicts cardiac events independently of established medical risk factors (10). Psychological distress has been found to elevate resting heart rate and blood pressure, decrease heart rate variability and increase ventricular arrhythmias and myocardial ischemia. There is also an increase in platelets count and activity and this in combination with the increased levels of coagulation factors and plasma fibrinogen may have an additive effect in promoting occlusive thrombus formation (11). It is not clear whether negative emotions affect all patients and cardiac end points in the same way or to the same degree.

Generalized anxiety, pervasive fear, specific simple phobias and posttraumatic stress reactions are commonplace in patients who have experienced the diagnosis and severe complications of heart disease. Anxiety is vital, highly differentiated and it originates in one's own body, at the same time representing a response to a biological threat. It is existential and generated by fear for life. Chronic low to moderate intensity anxiety, such as that seen in generalized anxiety disorder may have different effects on both cardiac physiology and cardiac end points than transient, high intensity anxiety such as that seen in phobias and panic disorder. Agoraphobia frequently occurs in patients with cardiac arrhythmias, angina and heart failure developing just as it may in patients with recurrent panic attacks. High levels of phobic anxiety are associated with an increased risk of sudden death, presumably owing to reduced vagal modulation of cardiac rate and increased ventricular tachyarrhythmias (12).

Depression is a common problem in patients with heart disease, associated with reduced return to work and quality of life as well as increased mortality. Depressed mood even in the absence of a clinical depressive disorder, increases the risk for post MI period. Some post-MI patients with depressed mood and minor depression will subsequently develop major depression and others will not. It is not clear whether the dysphoric or mildly depressed patients who do not go on to develop major depression are at any higher risk for mortality than are otherwise comparable non depressed patients (13,14)

Duration of depressed mood may play a key role in

the association between depression and cardiac events. Newly depressed, but not chronically depressed mood should be considered as a major risk for new cardiovascular events particularly in older persons (15). Persons who are depressed for an extended period may become "adapted" to their emotional stress because of experience, expectations or stoicism (16,17) which may explain why chronic depression is a less important trigger for the more direct physiologic processes underlying cardiovascular diseases. Depression may represent a transitory adjustment reaction to subclinical symptoms of cardiovascular disease such as increasing angina or dyspnea. In such a case a new depression could be an alert that some acute morbid event will occur (18). There are some reasons for a gender difference concerning the effect of depression (19). It is plausible that women's physiological reactions to a psychosocial stressor differ from those of men partly because they are protected hormonally (20). In addition women and men may psychologically define events differently. Even after adjustment to environmental and health circumstances women have a greater tendency to recall depressive symptoms (21). Appropriate treatment for depression in heart disease patients is therefore important in light of its high prevalence and negative effects.

Psychological defense mechanisms

To adapt psychologically to the drastically changed life conditions and the induced existential anxiety patients use different psychological defense mechanisms. Their establishment, retention and changeability depend on the premorbid personality and the degree of somatic damage (22). Many patients exhibit symptoms of psychological distress immediately after a coronary event and this should be viewed as a normal reaction to such a life-threatening event. Preserving distinctions of "negative affectivity" is essential if we are to identify the mechanisms that underlie the relationships between mood states and cardiac end points (23).

The onset of cardiovascular illness comes as a narcissistic injury. Many patients are forced to confront issues of dependence on others and loss of control. In the beginning, the patients develop predominantly immature mechanisms, deny the disease, regress to the primary oral-depending level and project their hostility feelings to staff and family members. They may become less able to contribute to the support of their families, an important source of self-esteem.

Regression to the first level of primary oral dependence is the most frequent psychological defense in the beginning of the cardiovascular disease. It is expressed as marked dependence, passive receptive behavior and total reliance on the medical staff and their instructions.

The process of denial occurs commonly in patients with cardiac disease and often dramatically in acute care settings. The disease is not accepted by the conscious part of psyche. This mechanism operates unconsciously to resolve emotional conflict and allay anxiety by dis-

avowing thoughts, feelings, wishes, needs or external reality factors that are consciously intolerable. Denial is an important defense mechanism against anxiety and healthy denial may help patients in the short run to cope with symptoms and to recuperate by reducing the physiologic effects of anxiety that may exacerbate the medical situation (24). Denial that mitigates anxiety without interfering with the patient's ability to work with the medical team and follow treatment recommendations is best tolerated in the short run. In the long run, attempts to overcome denial may improve long term functioning. Maladaptive denial of illness can be a life-threatening emergency. Persistent denial appears to be related to poor outcomes with patients ignoring symptoms of an impending cardiac event, failing to seek and comply with medical and rehabilitation advice (25). It may occur in the context of depression or as an entity in its own right and may require the concerted efforts of family and medical personnel for evaluation and treatment. The need for denial as a defensive manoeuvre must be respected.

Aggression of the patient directed at people in the surroundings whom he/she used to like and medical staff treating him is manifested by projection mechanism which helps the patient to express his anger against the unjust fate for which he accuses these people.

Identification of the specific mechanisms is in turn necessary if we are to refine our ability to identify and treat patients at risk. The predominance of immature defense mechanisms in the long run means malaadaptation and maintenance of pseudocrisis state. On the other side adequate adaptation is spontaneously or psychotherapeutically achieved by developing of mature defense mechanisms.

Psychotherapy

The primary goal of the psychotherapy is to make patients more psychologically comfortable by minimizing psychological stress and facilitating normal psychological processes (26). The therapists' aims are to create a relationship wherein the patient will feel safe to express feelings and will thus have the experience of being accepted. If the patient achieves successful adaptation he develops a realistic insight into the limitations, gives up the powers he had had before the illness and adjusts to the actual situation. Regarding the prognosis, the possibility of evolution of different defense mechanism is of great importance for successful rehabilitation. Some primitive defense mechanisms (regression, denial) can be useful in the beginning of cardiovascular disease

and deserve support but in time they must be suppressed because of their counter-effect on rehabilitation. Mature defense mechanisms are developed suppression, humor and sublimation which are more or less prominent depending on individual capacities and traits. Therapeutical manipulation of defense mechanisms is considered an important factor of adequate adaptation to actual cardiac events.

Psychologists should be concerned with determining patients' psychological needs implementing generic stress management and relaxation techniques introducing specific cognitive-behavioral therapies for those exhibiting severe emotional distress and training staff in psychological needs assessment. Psychological intervention programmes that provide short-term support for psychological distress, in conjunction with coronary risk behaviour interventions coupled with exercise, have a positive influence on both physical and psychosocial outcome.

Focal brief psychotherapy may be considered a logical treatment for depression in heart disease patients especially in cases where the depressive syndrome arises in reaction to the development of cardiac disease. In interpersonal psychotherapy, emphasis is placed on working through a focal area of interpersonal difficulty. Difficulties associated with depression may be classified as owing to role transitions, grief or role disputes. It is extremely important to identify those patients who are psychologically predisposed to poor adaptation after a coronary event and also to offer appropriate psychological interventions for both the patients and their partners, as both often suffer considerable distress which can substantially influence the patients convalescence (27).

In cognitive therapy attention is directed to the identification and correction of irrational negative thinking patterns that contribute to feelings of depression. Precise interventions should begin as soon after the coronary event as possible. The outcome for patients who have suffered a coronary event depends not only on the physical characteristics of the event, but also on the type of person they are and how well they adjust psychologically (28). Patients' personality is much more stable and much more difficult to change than are mood states such as depression or anxiety.

Cognitive therapy approaches and psychosocial interventions play an important role in the treatment of depressed and socially isolated heart disease patients. Separation, difficult relationships, powerful triggers to the emotions of fear, anger, depression and grief may be blocked from direct expression by the patient and have to be dealt with by therapist in a flexible form of supportive counseling tailored to the individual needs.

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PSIHOLOŠKI ASPEKTI KARDIOVASKULARNIH BOLESTI

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Kratak sadržaj: *U radu je prikazan značaj i uska povezanost psiholoških faktora sa nastankom, tokom i prognozom kardiovaskularnih bolesti. Opisan je Tip A ponašanja kao nezavistan faktor rizika sa posebnim osvrtom na hostilnost kao dominantnu karakteristiku u modelu ponašanja. Analizirana je uloga "negativne afektivnosti", depresije u anksioznosti kroz njihove mehanizme nastajanja, delovanja u prognostičkog značaja u evoluciji kardiovaskularnih bolesti. Apostrofirani su nezreli i zreli psihološki odbrambeni mehanizmi u različitim fazama bolesti i ukazano na neophodnost njihove spontane ili terapijske transformaciji kao osnove za adekvatnu adaptaciju. Terapijski tretman psihičkih poremećaja, nadgrađenih na primarnu kardiovaskularnu bolest predstavljen je kratkom analitičkom psihoterapijom i kognitivnim tretmanom.*

Ključne reči: *Faktori rizika, hostilnost, depresija, anksioznost, psiholoski mehanizmi odbrane, psihoterapija*