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*Possibilities of fulfilling psychological needs and depressive symptoms in patients after cardiac transplantation undergoing a permanent pacing treatment*

“A new heart, a new life” is a sentence uttered by many patients who have undergone cardiac transplantation. 38 years have passed since the first transplantation was performed in 1967 by Barnard’s team. Despite the time lapse, however, cardiac transplantations are still a complex matter. They have become subject of interest in many branches of science, including clinical psychology (12).

Each year, the number of people living with a transplanted heart is growing. There is no questioning of the fact that such a serious surgical operation as cardiac transplantation has a serious effect upon the mental functioning of patients (3, 5).

Widely known to clinicians are the described in the literature cases of mental disorders observed in patients in the post-operation period. The most frequent mental disorders in this period are consciousness disorders but also occurring are cases of psychosis (postcardiotomy delirium or post-transplant delirium) (2).

In the period of early rehabilitation, 2–3 weeks after the operation, the main problem is emotional disorders such as mood disorders and anxiety, the latter mainly concerning the possibility of transplant rejection. In his observations of heart recipients, Lunde describes a change in self-esteem and intrafamily relations as well as adaptation difficulties (3, 4).

Walcott reports mood disorders with a tendency toward mood heightening and the feeling of survivor guilt in patients during the period of rehabilitation after cardiac transplantation, including the period of ambulatory treatment. Among his observations, he also mentions the symptoms of depression, affective lability, and fully symptomatic maniacal syndromes. The observations conducted by Walcott, as well as Pudło et al. indicate that patients after cardiac transplantation judge their abilities and perspectives for development overly well. They establish numerous acquaintances and contacts. They have rich and elaborate plans regarding the future (6, 7, 14, 15).

The aim of the conducted research was to assess the intensification of depressive symptoms and the possibility of fulfilling psychological needs in patients after cardiac transplantation undergoing a permanent pacing treatment.

MATERIAL AND METHODS

The research was performed on a group of eight male patients aged 19–60 with the mean age of 46, all of whom had undergone cardiac transplantations. Transplantations were performed in three patients as a result of post infarction cardiomyopathy, while in the other five due to congestive

cardiomyopathy. Post transplantation survival rate varied from 5 to 10 years. Owing to continual heart rhythm disorder, pacemakers were implanted in all patients. Of the total number of patients, two had university education, four secondary and two vocational education. One of the observed patients returned to work, six patients remained on disability pension and the youngest patient, a 19-year-old, was a secondary school student.

In order to evaluate the mental condition of the surveyed patients, authorised adaptations of the following works were used: Beck's Depression Inventory (BDI) by A.T. Beck and Pichot as adapted by Z. Jucha, H. G. Gough and Heilbrun's The Adjective Check List ACL by Z. Plużek, used twice for real and ideal self-concept evaluation, and Incomplete Sentences Tests by J. M. Sacks and L. Sidney as adapted by M. Choynowski (9, 10, 11, 13).

### RESULTS

Test results obtained on the basis of Beck's Depression Inventory (BDI) (Fig.1) indicate that patients after cardiac transplantation and receiving a permanent pacing treatment do not show depressed mood or any signs of depression ( $M=4.58$ ). No substantial changes or disorders in particular categories of depression (Fig. 2), or changes in emotionality, contacts or social relations were ascertained. No intensification of pathological symptoms or somatic reactions was observed.

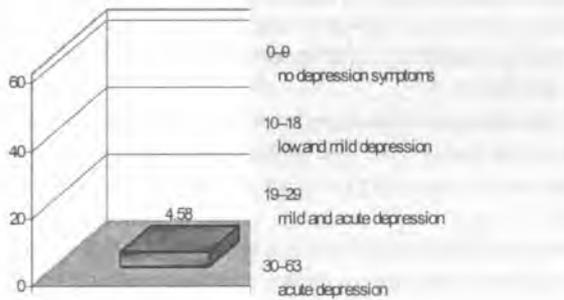


Fig. 1. Beck's Depression Inventory (BDI). Mean values obtained in the examinations of patients after cardiac transplantation treated with permanent pacing

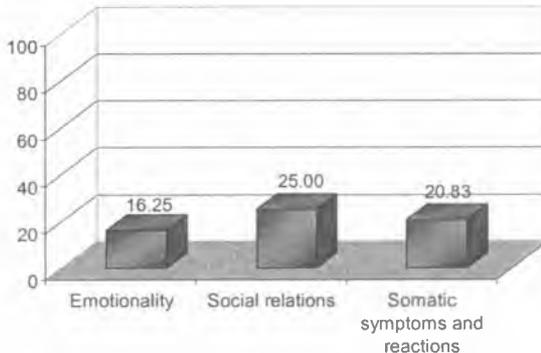


Fig. 2. Beck's Depression Inventory (BDI). Mean values obtained in the examinations in particular categories of depression in patients after cardiac transplantation treated with permanent pacing

Figure 3 shows the results of examinations of patients after cardiac transplantation treated with permanent pacing obtained by means of H.G. Gough and Heilbrun's Adjective Check List ACL.

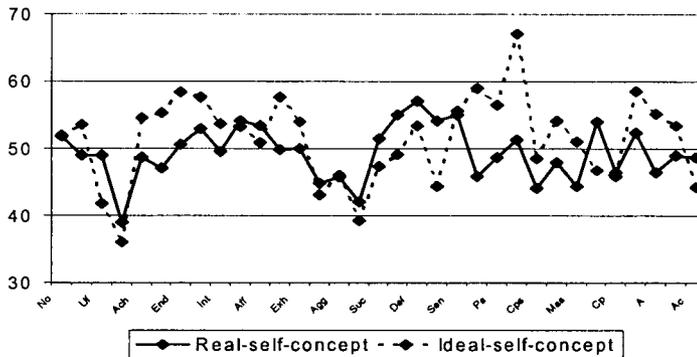


Fig. 3. The Adjective Check List, ACL, H.G. Gough and A.B. Heilbrun.  
Mean profile of the real and ideal image of self of patients after cardiac transplantation treated with permanent pacing

Among the 37 scales of the ACL test, 15 scales of psychological needs were selected for analysis. The set of needs was divided into three categories:

The 1<sup>st</sup> category – the needs supporting creative realisation of achievements. In the real self-concept, the needs for achievement (Ach), dominance (Dom) and endurance (End) reached a medium level. The sick demonstrated a moderate level of aspirations and endeavour (Ach) to achieve anything in life. They did not exhibit the need for dominance (Dom) and became rather submissive readily accepting subordinate roles. To the best of their abilities, they coped with difficulties (End), trying to stand by their intentions. The dominating need in this group was the need for order (Ord) and sorting out own life. One may speak of an exaggerated attention to sorting out everything that may contribute to arranging one's life.

In the 2<sup>nd</sup> category – of social needs facilitating contacts with other people – the following needs remained moderate: the need to understand oneself and others (Int), the need to give help and be helpful to others (Nur) and the need for affiliation (Aff). Similarly moderate remained the needs for contact with persons of the opposite sex (Het), for exhibiting one's experiences (Exh), and the need to experience support from others (Suc).

In the 3<sup>rd</sup> category – of needs connected with the approach to life – characteristically low were the need for autonomy (Aut) and the need to introduce changes (Cha). The needs which remained moderate were the need to reduce and negate one's own value (Aba) and the need to submit (Def) and to adopt subordinate roles. The need to be ready to introduce changes in the structure of one's character (Cha) remained low.

In the ideal self-concept, the needs that noticeably grew (intensified) were those connected with achievements, among which the highest were the need for endurance (End) and order (Ord). In the 2<sup>nd</sup> category, the needs which grew considerably were the ones for contact with persons of the opposite sex (Het) and for exhibiting and sharing one's experiences and sensations (Exh). In the 3<sup>rd</sup> category, there rose the need to criticise oneself, i.e., intensified criticism (Aba), and the need to adopt subordinate roles in interpersonal relations (Def), as well as openness to psychological aid and readiness to accept it (Crs).

In Sacks and Sidney's Incomplete Sentences Test, the intensification of conflicts was estimated,

based on patients' answers, in four spheres: 1) attitude to one's own family, 2) relation to the opposite sex, 3) attitude to surrounding people with whom patients enter into interpersonal relations, and 4) attitude towards oneself.

1. The respondents stressed good family relations and exhibited strong ties with their parents. They described the relations with the mother as very good. They characterised the father as loving and responsible for the living conditions of the family.

2. No substantial conflicts in the sexual sphere were observed. The respondents described their sexual life as proper and satisfactory, stressing the fact that spouses should be intellectually and emotionally matched.

3. They also described as proper other social relations: with friends, co-workers, acquaintances, and superiors. The patients perceived themselves as able to work professionally or do other types of activity. They wanted to be active if not in the professional field then in social work. They felt responsible for themselves and for the performance of the undertaken tasks.

4. The most intense conflicts and negative self-esteem occur in the sphere of assessment of self, one's expectations, the past and the future, personal talents and achievements. Qualitative responses are very interesting here and illustrate the internal incongruities and conflicts experienced by the respondents. The patients judged positively their talent for efficient performance at work. They were certain that they fulfilled their part well in family life. They exhibited the need for being respected, recognised, appreciated, and socially accepted. These features can be very positive under the condition that they do not cause too great tensions, contradictions and inadequacies in the aspirations. However, the patients exhibited self-criticism and a tendency to blame themselves. The feeling of guilt sprang from the insufficient care about health before the illness. Fears and anxieties concerned physical suffering, loneliness, senility, and the danger of another additional illness. The worry and anxiety of the respondents were also caused by the difficulties in securing the financial situation of themselves and their closest family. In Sacks's test, the problem of illness and health was very conspicuous. The care about their health and thorough observation of the good functioning of their organisms became the most important aims in the patients' lives.

## DISCUSSION

In the literature, the most frequently mentioned mental disorders connected with the period of rehabilitation and ambulatory treatment are mood disorders, ranging from surprisingly good (euphoric) to depressive symptoms. The described depressive symptoms in patients after cardiac transplantation relatively often required pharmacological treatment (1, 8).

Oftimes, authors mention numerous factors which could influence the occurrence of mood changes. Among the most frequently mentioned factors are immunosuppressive treatment and control cardiac biopsies (1, 2, 8, 15).

The observations of Meyer, Pudło, Wolcott and other authors show that patients after cardiac transplantation make plans for their future, in spite of going through many difficulties. They establish perhaps superficial but numerous interpersonal contacts. In certain situations they overestimate their abilities to undertake actions (4, 6, 7, 14, 15).

The results of self-examinations of patients after cardiac transplantation, additionally protected with permanent pacing, did not show any symptoms of lowered mood or any features of depression. The respondents' mood was stable. The set of psychological needs, exhibited by the respondents in the ideal image of themselves, clearly indicates the will to endure in the realisation of their goals and undertakings aimed at adopting the role of a leader. The dominating need is the strong need for ordering

and systematising everything that may contribute to arranging one's own life. The respondents exhibited clear tendencies and aspirations to establish and hold contacts with persons of the opposite sex, and the need to share their experiences with others. There was a clearly marked rise in criticism towards oneself with tendencies to adopt subordinate roles in interpersonal relations, as well as openness and readiness to accept psychotherapeutic aid. Patients after cardiac transplantation described their family and social relations (with friends, co-workers, acquaintances) as proper. Their fears and anxieties concerned physical suffering, loneliness, senility, and the hazard of another disease. They were worried about securing their future financial situation.

Their feeling of guilt sprang from the insufficient care about health before the illness occurred. However, the respondents' life aims were very realistic and personal.

## CONCLUSIONS

1. Patients after cardiac transplantation treated with permanent pacing did not exhibit symptoms of lowered mood or depression.

2. The psychological needs of the sick after cardiac transplantation treated with permanent pacing are connected with creative realisation of achievements and aspirations. There occurs a rise in the needs which facilitate interpersonal contacts and the needs associated with adopting an approach to life.

3. As regards the problems of their own health, they exhibit a feeling of guilt for the past disregard. They analyse their past and future from the point of view of their health.

4. An assessment of the mental state of patients after cardiac transplantation treated with permanent pacing is indispensable for the adequate execution of pharmacological and psychotherapeutic treatment. It is indispensable in the process of rehabilitation.

## REFERENCES

1. Allilaire J. F.: Les greffes cardiaques: aspects psychopathologiques at troubles psychiatriques. *Annales Medica Psychologiques*, 9, 113, 1990.
2. Blachy P. H., Starr A.: Post-cardiotomy delirium. *Am. J. Psychiatr.*, 121, 371, 1964.
3. Lunde D. T.: Psychiatric complications of heart transplantation. *Am. J. Psychiatr.*, 126, 369, 1969.
4. Meyer B. C. et al.: A clinical study of psychiatric and psychological aspects of mitral surgery. *Psychosom. Med.*, 46, 80, 1984.
5. Nasiłowska-Barud A.: Selected psychological problems of patients with cardiac transplantation on a permanent pacing treatment. *Annales UMCS, sectio D*, 58, 431, 2003.
6. Pudło R. et al.: Zaburzenia psychiczne u chorych po transplantacji serca. *Wiad. Psychiatr.*, 3, 181, 2000.
7. Pudło R. et al.: Zaburzenia psychiczne u osób przygotowywanych do transplantacji serca. *Wiad. Psychiatr.*, 3, 97, 2000.
8. Philipps L.: Psychiatric aspects of heart transplantation. *Can. J. Psychiatr.*, 36, 563, 1991.
9. Płużek Z.: Skrypt do Testu Przymiotników ACL H. G. Gougha i A. B. Heilbruna. KUL, Lublin 1995.
10. Pużyński S.: Depresje. PZWL, Warszawa 1988.
11. Preskorn S. H.: Depresja – postępowanie w lecznictwie otwartym. *Triangulum MBP*, Wrocław 2004.

12. Siwińska J. et al.: „Nowe serce, nowe życie” samoocena i cele życiowe pacjentów po operacji przeszczepienia serca. *Sztuka Leczenia*, 6, 41, 2000.
13. Siek S.: *Wybrane metody badania osobowości*. ATK, Warszawa 1983.
14. Wallcott D. L.: Organ transplant psychiatry: psychiatry's role in the second gift of life. *Psychosomatics*, 31, 388, 1990.
15. Wallcott D. L.: Psychiatric aspect of heart and heart-lung transplantation. In: *Cardiomyopathies and Heart-Lung Transplantation*. A. S. Kapoor, J. S. Schroeder, M. H. Yacoub, McGraw-Hill Inc., 1991.

## SUMMARY

The aim of the study was to estimate the exacerbation of depressive symptoms and the possibilities of fulfillment of psychological needs in patients after cardiac transplantation treated with permanent pacing. The examined group consisted of 8 men aged from 19 to 62, who had undergone cardiac transplantation. Because of the persisting heart rhythm disorder there arose a necessity for permanent pacing treatment. Apart from basic clinical examinations, patients underwent psychological assessment by means of Beck's Depression Inventory (BDI) by A. T. Beck and Pichot, The Adjective Check List ACL by H. G. Gough and A. B. Heilbrun and Incomplete Sentences Tests by J. M. Sacks and L. Sidney. The methods used permitted us to determine the level and characteristics of depressive symptoms. They permitted us to distinguish sets of psychological needs and to perform an analysis of the aim, affirmation and the meaning of life. No depressive symptoms were found in any of the patients. The examined patients showed a high sense of the meaning and affirmation of life. They described themselves as persons having moderate needs connected with achievement-striving, social functioning and attitude toward life. In the ideal self-image, the examined patients showed considerable rise in all sets of psychological needs. The obtained research results show that patients after cardiac transplantation treated with permanent pacing have definite plans and aims in their lives that they intend to fulfil systematically.

### Możliwości realizacji potrzeb psychicznych a objawy depresyjne u pacjentów po transplantacji serca, leczonych stałą elektrostymulacją

Celem pracy była ocena nasilenia objawów depresyjnych i możliwości realizacji potrzeb psychicznych u pacjentów po transplantacji serca leczonych stałą elektrostymulacją. Grupę badaną stanowiło ośmiu mężczyzn w wieku od 19 do 62 lat, u których dokonano transplantacji serca. Z powodu utrzymujących się zaburzeń rytmu zaistniała konieczność leczenia stałą elektrostymulacją. Oprócz podstawowych badań klinicznych chorym wykonano badanie psychologiczne Inwentarzem Objawów Depresyjnych A. T. Becka i Pichota w opracowaniu Z. Juchy, Testem Przymiotników ACL H. G. Gougha i A. B. Heilbruna w opracowaniu Z. Płużek i Testem Uzupełniania Zdań J. M. Sacksa i L. Sidneya. Zastosowane metody pozwoliły na określenie poziomu i charakterystykę objawów depresyjnych. Pozwoliły na wyodrębnienie zespołów potrzeb psychicznych oraz dokonanie analizy celów i potrzeb życia. U wszystkich badanych nie stwierdzono występowania objawów depresyjnych. Pacjenci ujawnili wysoki poziom poczucia sensu życia. Oceniali siebie jako osoby mające umiarkowane potrzeby związane z dążeniem do osiągnięć, umiarkowane potrzeby charakteryzujące funkcjonowanie społeczne oraz umiarkowane potrzeby związane z ustosunkowaniem się do życia. W idealnym obrazie siebie badani wykazali znaczny wzrost wszystkich zespołów potrzeb psychicznych. Otrzymane wyniki badań wskazują na to, że chorzy po transplantacji serca leczeni stałą elektrostymulacją mają zdecydowane plany i cele życiowe, które zamierzają systematycznie realizować.