
DEPRESSIVE SYMPTOMS IN PATIENTS WITH PACEMAKERS

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The incidence of depression was studied in fifty patients, to whom permanent pacemakers were implanted. Mean age of patients was 63 (19-79 years) and 32 of them were male. Mean pacemaker age of the patients was 19 months (2-102 months). In 8 of the patients (16%) depression was diagnosed. 2 of these were (4%) major depressive syndrome, 1 (2%) hypochondriasis, 1 (2%) anxiety disorder not otherwise specified, and 4 were (8%) adjustment disorder. Prevalance of depressive disorders in patients with pacemaker implantation was not higher than the general population, but some of the depressive symptoms has been seen more prevalant. Severity of depression was higher in women than in men. Other variables such as age, or pacemaker age have no influence on the severity of depression.

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The onset of a symptomatic cardiac disease is a potent provocative factor for anxiety. Angina, arrhythmias, and heart failure produces an anxiety related to fear of a heart attack, disability sudden death. Myocardial infarction is one of the cardiac disorders that has been researched most frequently on psychiatric morbidity¹. Compared with myocardial infarction, there has been a fewer amount of studies published on the psychological impact of pacemaker implantation². Blacher and Bash has identified three phases of adaptation³.

1. Preoperatively patients suffer a reaction to acute stress, and are preoccupied with fear of dying, and with the medical terminology. 2. After discharged, patient reactions vary with their basic personalities and fantasies concerning the pacemaker and its functions, and depression is seen commonly. 3. After pacemaker finally becomes integrated into the patients daily life, some ignore it, others center their existence around it, and express ambivalence. These psychosocial stresses may make patients with pacemaker implantation vulnerable to depression, and other psychological adjustment. Clinical experience has demonstrated that depression and anxiety might develop in these patients with pacemaker mechanism. There are not many studies which has evaluated

psychiatric morbidity in patients with permanent pacemaker systematically up to date. In this study frequency of depressive symptoms and psychiatric diagnosis was studied in patients to whom permanent pacemakers were implanted.

MATERIAL AND METHODS

Fifty patients to whom cardiac pacing was performed with permanent pacemaker were included in this study. All of the patients were hospitalized for at least 15 days. Mean age of the patients was 63 (19-79) and 32 of them were male. Mean pacemaker age of patients was 19 months (1-102 months). Psychiatric diagnosis was made according to DSM (Diagnostic and Statistical Manual of Mental Disorder)⁴. Depressive symptoms and severity of depression were measured by using modified Hamilton Rating Scale for Depression (mHRSD)⁵.

Demographic and clinical characteristics of the patients were as follows: 52% of patients were male, 76% were married, 60% were above 65 years, 40% had a pacing period less than 6 months, 60% had an urban or semi-urban background, 44% had primary school education level, and 34% were uneducated.

RESULTS AND CONCLUSIONS

According to the DSM 8 patients (16%) had taken a psychiatric diagnosis. 2 patients (4%) were found to be affected by major depressive syndrome, 1 (2%) by hypochondriasis and 4 (8%) by adjustment disorder. Mean mHRSD total score of patients was 7.52 ± 6.95 . The mean mHRSD total score was influenced by sex (females have significantly higher mean mHRSD score), but other variables such as age, pacemaker age, background (urban or rural) and education level had no influence on severity of depression. The most frequent depressive symptoms according to mHRSD (score 2) were anxiety (30%), hypochondriasis (26%), difficulties in work and activities (24%), insomnia

(22%), loss of energy (16%), depressed mood (12%), hopelessness (10%), loss of libido (8%), and helplessness (4%).

DISCUSSION

The epidemiology of depression in the elderly population has been searched by using a standard diagnostic schedule and criteria (DSM) at a semiurban area in Türkiye. The prevalence of major depression was found to be 5.9%. The point prevalence of depressive symptoms were tiredness 12.9%, worthlessness 12.1%, loss of appetite 10.4%, depressive mood 10.1%, loss of interest 9.6%, insomnia 3.9%⁶. In a review of epidemiological studies of depression it was reported that, the point prevalence rate for depressive symptoms is nearly 20% and clinical depression has a rate of nearly 10% in Türkiye.⁷ The results of this study suggest that prevalence of depressive disorders in patients with permanent pacemaker are not higher than general population, but some of the depressive symptoms have been found more prevalent. Somatic symptoms / concerns (such as hypochondriasis, difficulties in work and activities, insomnia, loss of energy) and psychic anxiety are the more prevalent symptoms compared to results of epidemiological studies.

Patients to whom cardiac pacing is performed are faced with fear of dependency to an artificial device, fear of pacemaker malfunction, of physical trauma to pacemaker or exposure to electrical fields, of rehospitalization or pacemaker replacement, of compromised future health and well being, fear of dying, and fear of social rejection or social isolation⁸. These fears may be source of high prevalence of psychic anxiety and somatic concerns at this study. The knowledge of what the device is and how it works may prevent the fears. Low sociocultural status of our patients may be responsible for higher prevalence of depressive symptoms.

Greene and Moss reported that most patients make an excellent psychological adjustment to cardiac pacemaker with a rejuvenating lease on life. Only a small minority exhibit anxiety

about the pacemaker⁹. Keren et al assessed the psychological responses to the automatic implantable cardioverter-defibrillator (AICD) and reported that AICD implantation in patients with life threatening ventricular arrhythmias did not influence anxiety and depression scores¹⁰. Alpern and Uzark evaluated 30 pediatric pacemaker patients to examine the psychosocial responses of children and adolescents with a cardiac pacemaker⁸. They have found no significant difference on standardized measures of trait anxiety, self-competence, or self-esteem between the pacemaker group and control groups (30 patients with similar heart disease but without pacemaker, 30 physically healthy children). Mickley et al has examined the subjective consequences of permanent pacemaker therapy in patients under the age of retirement¹¹. They have seen that 11.1% of patients perceived anxiety most frequently due to fear of pacing, 23.6% of patients had physical complaints mainly due to the size of generator, pain/tenderness from the scar or sensation of "impulses"/palpitations, and 13.9% perceived deterioration in quality of life due to pacemaker therapy. Lanuza and Marotta searched endocrine and psychologic responses of patients to cardiac pacemaker implantation. Although the psychologic tests did not demonstrate marked changes in anxiety or affective mood states, their finding showed that transient or permanent cardiac pacemaker implantation is a stressor¹².

Although most of the studies reported as a conclusion that most patients make a good psychological adjustment to pacemaker implantation, their findings about the rate of the symptoms such as anxiety, physical complaints and deterioration in quality of life could not be neglected. Similar to other studies' findings, the results of this study-revealing high prevalence of anxiety and somatic symptoms-suggested that, patients may have some psychological difficulties adjusting themselves to cardiac pacemaker.

REFERENCES

- 1- Dalack GW, Roose SPR: Perspectives on the relationship between cardiovascular disease and affective disorder. *J. Clin Psychiatry* 1990; 51:4-11.
- 2- Tchou PJ, Piasecki E, Gutmann M, Axtell K, Aktar M: Psychological support and psychiatric management of patients with automatic implantable cardioverter defibrillators. *Int J Psychiatry in Medicine* 1989; 19: 393-407.
- 3- Blacher RS, Bach SH: Psychological aspects of pacemaker implantation. *Arch Gen Psychiatry* 1970; 22: 319-323.
- 4- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Revised*, 3rd edition, APA, Washington.
- 5- Hamilton MA: A rating scale for depression. *Journal of Neurology, Neurosurgery, and Psychiatry* 1960; 23: 56-623.
- 6- Uçku R, Kuey L: The epidemiology of depression in an elderly population. *Nöropsikiatri Arşivi* 1992; 29: 15-20.
- 7- Güleç C, Kuey L: Depression in Turkey in 1980's (Epidemiological and clinical approaches). *Nöropsikiatri Arşivi* 1989; 26:17-2.8.
- 8- Alpern D, Uzark K, Dick M: Psychosocial responses of children to cardiac pacemakers. *The Journal of Pediatrics* 1989; 114: 494-501.
- 9- Greene WA, Moss AJ: Psychosocial factors in adjustment of patients with permanently implanted cardiac pacemakers. *Annals of Internal Medicine* 1969; 70: 897-902.
- 10- Keren R, Aarons D, Veltri EP: Anxiety and depression in patients with life threatening ventricular arrhythmias: Impact of the implantable cardioverter defibrillators. *Pace* 1991; 14: 181-187.
- 11- Mickley H, Peterson J, Nie'sen BL: Subjective consequences of pacemaker therapy in patients under the age of retirement. *Pace* 1989; 12:401-405.
- 12- Lanuza DM, Marotta SF: Endocrine and psychological responses of patients to cardiac pacemaker implantation. *Heart-Lung* 1987; 16: 496-505.