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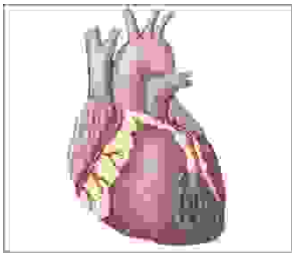
PSYCHIATRIC MORBIDITY IN PATIENTS OF MYOCARDIAL INFARCTION;



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ABSTRACT... khalidsudozai@yahoo.com **Objective:** To determine the proportion of anxiety, depression and cognitive impairment in patients of acute myocardial infarction during early recovery phase, to emphasize the significance of increase in cardiac mortality in such patients and to stress the need for prevention and early treatment of psychiatric co-morbidity. **Design:** It was a cross-sectional study. **Place and Duration of Study:** The study was carried out at the Armed Forces Institute of Cardiology and National Institute of Heart Diseases (AFIC&NIHD) Rawalpindi, from 1st November 2002 to 30th February 2003. **Materials and Methods:** One hundred consecutive cases of acute myocardial infarction admitted to AFIC & NIHD were included in the study. Details were recorded in the proforma designed for this purpose. Urdu versions of Hospital Depression and Anxiety Scale (HADS) and Mini Mental State Examination (MMSE) were used to pick up the psychiatric morbidity. Data analysis was carried out by the computer software programme "Biostats". **Results:** 18 patients were found to have psychiatric morbidity. 10 out of these had anxiety, 6 depression and 2 cognitive impairment. Age range was between 33 and 75 years with mean age 50.66 years. All index cases had 'Q' wave type of infarction. 10 patients had anterior MI, 5 inferior MI and 3 had antero-lateral infarction. 14 patients had recent stressful life events. **Conclusion:** Acute MI carries major stress in a person's life and it has its psychological consequences as well. Definite psychological morbidity exists in the recovery phase of acute MI and it includes anxiety as the commonest form of disorder, followed by depression and cognitive impairment.

Key Words: Acute MI, Depression, Anxiety, Cognitive impairment

INTRODUCTION

Myocardial Infarction (MI) is a major physical illness and involves stress as a major factor, prior to its onset, as well as, as a consequence of its occurrence[1,2]. About three decades back, it was a disease of developed countries, however, with passing days, our population has also fallen prey to this devastating ailment. The most alarming thing is the involvement of people in much younger ages leading to increased complications and enhanced mortality in this age group. The MI is such a painful and dreadful experience in one's life that it can give rise to significant emotional distress[3]. Acute MI is followed by an immediate fear of death or of another infarct. Once these dangers are gone or at least reduced to some extent, one finds himself disabled which forces him to think of changing his lifestyle and his profession etc. There is fear of having recurrence of chest pain or heart attack during exercise, and especially during the course of sexual activity. These handicaps are liable to pose lots of difficulties for the patient and his family. These include disability which may be financial, physical or psychological[4,5].

Psychological disability may take the form of an acute reaction to stress, which is likely to be transient, or a major psychiatric illness may be precipitated in a predisposed individual. Commencement of psychiatric illness following MI is likely to make the situation more complex as it is associated with increased cardiac mortality[6,7]. This makes it an important issue. One needs to assess the frequency and nature of psychiatric illnesses that follow acute MI. This would be helpful in understanding the management of such cases.

Purpose of the study was to determine the proportion of psychiatric morbidity during recovery phase of acute MI, to emphasize the significant increase in cardiac mortality in such patients and to stress the need for prevention and early treatment of psychiatric co-morbidity.

MATERIAL & METHODS

One hundred consecutive cases of first episode of acute myocardial infarction, admitted to AFIC&NIHD Rawalpindi, during the period of 1st Nov 2002 onwards were included in the study. Formal consent was obtained from participants of the study. Both male and female patients formed the sample. No social class or age was exempted from the study. Subjects with concurrent physical illness, past history of psychiatric illness or those having effects of drugs impairing their ability to participate were excluded from the study. The diagnosis was established according to the conventional clinical criteriae, by the cardiologist through clinical assessment, changes in electrocardiogram and elevation of cardiac enzymes.

Subjects under study were personally interviewed by the author and the data were recorded in the proforma designed for this purpose. Diagnostic instruments utilized were the Hospital Anxiety and Depression Scale (HADS) and Mini Mental State Examination (MMSE). 10 was taken as a cut off point of HADS, for depression as well as for anxiety. Subjects obtaining 10 or more score were labeled as depression or anxiety cases. On MMSE, subjects obtaining less than 24 score were taken as having cognitive impairment. Translated versions of HADS and MMSE were administered to the patients on the 5th day of hospitalization, by the author. Diagnosis of psychiatric morbidity was obtained by manual method from the scores achieved by the patients on HADS and MMSE. Data analysis was carried out by the computer software "Biostats".

RESULTS

Out of a total 100 patients of acute MI, 18 patients were found to be psychologically ill, 6 suffered from depression, 10 from anxiety and 2 from cognitive impairment. Age range was from 33 to 75 years, mean age being 50.66 years. Fourteen patients had positive history of recent stressful live events. Depressed mood was complained of by 10 patients, 11 felt irritable, 12 felt anxious and 7 complained of fearfulness. 9 subjects complained of loss of libido, 7 forgetfulness, 9 impairment of concentration, and 5 expressed sexual apprehension.

All patients had 'Q' wave infarction. 10 patients had anterior MI, 5 inferior MI and 3 had antero-lateral MI. Range of rise in CPK values was from 326 to 3850 U/L, mean rise was 1522.22 U/L.

DISCUSSION

On searching the literature, one finds quite a lot of work done on the topic under discussion in developed world, whereas no work was done in Pakistan at the time of conducting the present study. In Pakistan, our study has been the pioneer. Present study proved the existence of anxiety, depression and cognitive impairment in patients with acute MI. Factors like tough mental and physical status and recent stressful life events have been brought out to be important in the causation of psychiatric morbidity, former being protective and later predisposing.

The present study showed total psychiatric morbidity to be 18% which is in agreement with studies by Lloyd and Cawley (1978-83) and Stansfeld et al (1992). Rest of the studies[8,9] have higher figures. New Haven Study (1978) gives much lower figures from general population thus giving significance to present

study's figures.

Regarding anxiety, current study brought out the figures of 10%. Rest of the studies in this regard give variable figures, i.e. Kazmier (1980) and Suzanne et al (1992). Again New Haven Study (1978) gives lower figures, i.e. 2.5% for the general population. Looking at these figures, one still finds relatively significant cases of anxiety in our patient population. Variation in the figures of various studies can be attributed to the environmental and personality factors of the affected patients[10].

Table-I. Psychiatric morbidity in different studies

Study	Year(s) of Study	Total Psychiatric Morbidity %	Depression %	Anxiety %
Present Study	2002-03	18	06	10
New Haven Study (general population)	1978	5.1	2.6	2.5
Lloyd and Cawley	1978-83	19	---	---
Cassem and Hackett	1979	33	---	---
Kazmier at al	1980	90	10	80
Schleifer et al	1989	---	27	---
Suzanne et al	1992	45	17	28
Stansfeld et al	1992	20.6	---	---
Ladwig et al	1992	---	22	---
Chiou A et al	1997	---	29	13
Gross R	1998	32	19	13
Kaufmann et al	1999	---	23	---
Strik JJ et al	2000	42	14	23

Our study shows 6% figures for depression. Other studies (given in the table) show figures ranging from 10 to 27 percent with New Haven Study (1978) showing 2.6% cases of depression in general population. Lower rates of depression in out patient population can be due to our patients' faith in Allah Almighty which gives them support and aversion from depressive cognition.

Cognitive deficit was shown in our study to be 2%, whereas Suzanne et as (1992) and Hackett and Resenbaum (1982) showed figures of 15% and 1% respectively. Unfortunately no study relating to general population could be found out. Another study by Strik JJ et al (2000) showed 5% cognitive deficit, thus proving the presence of cognitive deficit following acute myocardial infarction. Later studies, viz, Chiou et al (1997), Gross R (1998), Kaufmann et al (1999) and Strik JJ et al (2000), show the presence of significant psychiatric morbidity following acute MI. Figures are variable but their range is almost similar to the previous studies.

Causes of psychiatric illness in physical illness are complex. In some conditions, association is strong and is assumed to be due to direct link between pathophysiological processes and depression, e.g. heart disease, stroke, hypothyroidism, etc. In other

conditions, psychiatric illness is often associated with burden of chronic symptoms[11]. Negative emotions play a significant part in this regard[12]. On the whole, one reaches the conclusion that multiple factors are involved in the causation of psychiatric illness following acute myocardial infarction.

Since MI itself is a grave illness and carries with it a lot of morbidity, mortality and limitations in one's future life, so co-morbidity in the form of psychiatric illness is likely to compound the sufferings, as well as, to impose restrictions in future life[13].

Moreover, such patients are likely to have increased cardiac mortality in the form of various complications and sudden death. Mortality in depressed patients with MI was five times higher than non-depressed ones in a study by Alexopoulous et as (1997).

Depression leads to dysregulation of their sympathetic nervous system and of the hypothalamic-pituitary-adrenal axis. An alteration in endocrine activity results in increased plasma and serum cortisol levels, elevated levels of metabolites of cortisol and in decrease in heart rate variability. Elevated plasma catecholamines have been shown in experimental models to increase platelet aggregation. This might explain the mechanism by which myocardial ischaemic threshold is lowered, thereby increasing the risk of thrombosis and infarction[14].

Figures suggest that depression may contribute to early deaths of upto 200,000 patients after MI in U.K[15]. Patients with physical illness and depression perceive illness more negatively. They perceive consequences of their illnesses as more serious, the likely duration of their symptoms greater and their ability to control the disease as less adequate[16,17].

MI patients with psychiatric illness have more lengthy hospital stay which results in more economic burden for the health services[18]. As the psychological co-morbidity, especially depression plays such an important role in prognosis and hospital stay, therefore, it is clear that preventing and treating psychiatric morbidity in such patients is very important, not only to optimize mental health but also to improve the outcome of physical illness itself[19], to minimize the hospital stay.

CONCLUSION

Individuals better trained to withstand stress, develop relatively less psychiatric morbidity. There is a need to carry out more research on this very important topic, since psychiatric co-morbidity results in increased cardiac mortality,.

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