PESHAWAR CORONARY STUDY : PSYCHO-SOCIAL CORRELATES

Muhammad Ilyas,* Ahmad Ali,*
Haider Ali*, Muhammad Usman Awan*
and Thomas P. Hackett**

Abstract

In a series of 50 cases of acute myocardial infarction, 46 males and 4 females, age range 36-76 (mean 53 years), psycho-social factors have been studied. Myocardial infarction was commoner in men living in cities belonging to middle economical class with more primary family responsibility (56%) and they were more irregular in their religious practices (62%). Pre-infarction psychologic assessment revealed that anxiety (22%) and depression (10%) were the commonest personality traits. Peri-infarction assessment demonstrated anxiety to be the commonest disorder (38%), and depression predominated in the post-infarction period (40%) (JPMA 29: 215, 1979).

Introduction

The incidence of coronary heart disease has increased alarmingly over the past three decades all over the world and Pakistan has been no exception. This disease of multifactoral etiology has been known to have a

*Muhammadi Hospital, Ali Hospital, Peshawar, Pakistan.
**Department of Psychiatry, Massachusetts General Hospital, Boston, USA.

constellation of familial, biochemical, coagulation and psycho-social precursors. More recently, changes in the natural and social environments, as well as our way of reacting to these, have suggested a relationship between psychic mechanisms and coronary disease (Rosenman et al., 1964 & 1970; Ibrahim, 1966; Zanchetti and Malliani, 1974). In a series of over 300 patients of acute myocardial infarction, admitted in our Unit, anxiety was present in 25% of cases prior to the acute episode, as part of the coronary risk profile (Ilyas et al., 1976). Presently we are also searching, amongst other risk factors, the psychosocial correlates of coronary heart disease in our patients. This paper presents preliminary information about personality profile and emotional problems in the pre-, peri and post-infarction stages of this disease.

Material and Methods

Psychological assessment of patients of coronary heart disease (angina and/or infarction) has been carried out to study emotional problems in the pre and post-infarction phases of the disease. An effort is also being made to assess emotional problems during the acute episode of infarction, and in a few cases post-surgical (coronary-graft) phase has also been studied. Questionnaires prepared by a psychiatrist (A.A.) have been administered by a qualified psychiatric social worker (M.U.A.) and analysis have been carried out by two psychiatrists (A.A.,H.A.). Pre-infarction psychological assessment has been carried out retrospectively in patients with myocardial infarction, and prospectively in patients with angina pectoris, and we expect to follow-up the latter group. In addition, family study of patients and controls, is also planned.

From an initial series of 317 cases of acute myocardial infarction, admitted in our Unit, to date, socio-psychologic assessment has been carried out in 50 cases. The series include 46 males and 4 females, age-range 34-76 years (mean 53 years). Personality profile of these cases have been analysed and emotional problems during the hospital phase ('Peri-infarction') and following discharge from the hospital ('Post-Infarction') have been studied.

Results

The break-up of socio-cultural factors is shown in table I.

Table I: Myocardial Infaretion: Social Factors

	50 *Cases*	*M*: *F*: 46 : 4	34-76 *Yrs* (*m*.53)	
Family	Joint 28 (56%)	Nuclear 22 (44%)		
Economical Class	Upper 12 (24%)	Middle 25 (50%)	Lower 13 (26%)	
Education	Secondary School 16 (32%)	High School 9 (18%)	Illiterate 25 (50%)	
Employment	Government 15 (30%)	Private 12 (24%)	Business 13(26%)	Others 10 (20%)
Living	Urban 30 (60%)	Rural 20 (40%)		
Responsibility	Primary 28 (60%)	Secondary 22 (44%)		
Religion (Practice)	Regular 19 (38%)	Irregular 31 (26%)		

The personality profile of the cases, obtained from pre-infarction psychological assessment, is shown in Table II:

Table II: Myocardial Infarction: Personality Profile

Anxious 11 (22%)	Depressed 5 (10%)	Obsessed 3 (6%)
Hypomaniac 3 (6%)	Schizoid 2 (4%)	Adjusted 26 (52%)
Type-A Personality 17 (34%)		
Family History of Psychiatric Illness 7 (14%)		

The results of findings about the emotional problems during the acute or peri-infarction and post-infarction phases are shown in tables III & IV:

Table III : Myocardial Infarction : Emotional Problems

Infarction Phase	*Anxiety*	*Depression*	*Denial**	*Delirium*	*Normal*
Peri-Infarction	19 (38)*	12 (24)**	24/15/11***	2 (4)*	22 (44)*
Post-Infarction	13 (26)	20 (40)	19/21/10	—	20 (40)

* Denial of fear death. ** % *** Major/Partial/Minimal

Table IV : Coronary Heart Disease : Psychologic Assessment

Infarction Phase	*Anxiety*	*Depression*	*Others*
Pre-Infarction	11 (22%)	5 (10%)	8 (16%)
Peri-Infarction	19 (38%)	12 (24%)	2 (4%)
Post-Infarction	13 (26%)	20 (40%)	—
Post-Surgical (Coronary Grafting)	2/6	1/6	—

Discussion

The increasing trends in the incidence of coronary heart disease has offered one of the biggest challenge to physicians for this greatest killer of mankind which was declared as epidemic (WHO 1969). Recognition of various risk factors and their control presently offers hope for the prevention of this disease. The association of psychological factors have long been recognised (Menninger and Menninger, 1936; Arlow, 1945 & 1952), and more recently psychological and environmental factors have also been emphasised as contributory factors in the genesis of this disease (Zanchetti and Malliani, 1974). Rosenman et al. (1964 & 1970) prospectively followed up 35,000 employees of various corporations, for 8 years, to demonstrate that type-A behaviour or coronary risk behaviour significantly predisposed to the development of coronary heart disease. The study showed that the risk producing effect of type-A behaviour was independent of other standard risk factors.

Emotional conflicts may be intertwined with coronary heart disease and emotional problems may be present before the manifest disease, may develop, and/or aggravate after the disease has been diagnosed. In a series of over 300 cases of acute myocardial infarction hospitalised with us, 25% of the cases were already receiving treatment for anxiety, and even larger number required tranquilizers in the acute and post-hospital period (Ilyas et al., 1976).

Our preliminary results show that, socially, myocardial infarction was commoner in men living in cities belonging to middle economical class with more illiteracy, and that those inflicted usually had more primary family responsibility and were more irregular in their religious practices. Pre-infarction psychologic assessment revealed that anxiety (22%) and depression (10%) were the commonest personality traits, and more than half the cases (52%) were adjudged to be well adjusted. Peri-infarction psychologic assessment demonstrated anxiety to be the commonest disorder (38%), and depression predominated (40%) in the post-infarction period.

Pinto and Calaco (1969) in 268 cases of coronary heart disease (angina and/or infarction) reported anxiety in 30%, obsessive-compulsive behaviour in 25%, depression in 20%, schizoid personality in 5% and well adjusted personality in only 4% of cases. Reports from other parts of Asia are not yet forthcoming.

Hackett and Gassem (1973) have reported various degrees of depression to be invariably present in the majority of a series of 100 cases of acute myocardial infarction admitted in a coronary care unit: severe in 6, moderate in 36, mild in 33, and no depression in 25 cases. Psycho-social risk factors have also recently been shown to contribute significantly towards sudden death from coronary heart disease (Talbott et al., 1977), and this has been attributed to neural and psychologic mechanisms (Lown et al., 1977).

ACKNOWLEDGEMENT

We are indebted to Mr. Nasiruddin Mohmand and Mr. Muntazim Shah for technical and secretarial assistance.

References

Arlow, J.A. (1945) Identification mechanisms in coronary occlusion. Psychosom. Med., 14:461.

Arlow, J.A. (1952) Anxiety patterns in angina pectoris. Psychosom. Med., 14: 461.

Hackett, T.P., Gassem, N.H. Psychological adaptation to convalescence in myocardial Infarction patients. Exercise testing & training in coronary heart disease. New York, Academic Press, 1973, pp. 253-62.

Ibrahim, M.A. (1966) Personality traits and coronary heart disease. J. Chron. Dis., 19: 255.

Ilyas, M., Ali, N., Peracha, M.A. et al. Coronary Heart Disease: Risk factors and prognosis. XIII. Pakistan Medical Conference, Peshawar Mar. 24-26, 1976.

Lown, B., Verrier, L., Rabinnowitz, S.H. (1977) Neural and psychologic mechanisms and the problem of sudden cardiac death. Am. J. Cardiol., 39:890.

Menninger, K.A. and Menninger, W.C. (1936) Psychoanalytic observations in cardiac disorders. Am. Heart J., 11:10.

Pinto, I.J., Colaco, F. Risk factors in ischemic heart disease. Ist Int. Conf. Card. Rehab. Yugoslavia, 1969.

Rosenman, R.H., Friedman, M., Straus, R. (1964) A predictive study of coronary heart disease. The Western collaborative study Group. JAMA, 18:15.

Rosenman, R.H., Friedman, M., Straus, R. et al. (1970) Coronary heart disease in the Western Collaborative Study Group. A follow up experience of 4½ years. J. Chron. Dis., 23:173.

Talbott, E., Kuller, L.H. and Detre, K. (1977) Biologic and psycho-social risk factors of sudden death from coronary heart disease in white women. Am. J. Cardiol., 39:858.

World Health Organization Bulletin of International Society of Cardiology 1:1, 1969.

Yamazaki, N. (1973) Effects of hereditary and environmental factors on the development of myocardial infarction. Jap. Circulat. J., 37:69.

Zanchetti, A., Malliani, A. (1974) Neural and psychological factors in coronary diseases. Acta cardiologia supp., xx: 69.