

Psychiatric Disorders in Cardiac Patients

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ABSTRACT:

BACK GROUND:

Psychiatric disorders and coronary heart disease are not uncommonly seen together in the same patient especially in association with myocardial infarction these disorders vary from simple anxiety, depression, posttraumatic stress disorder, adjustment disorder.

OBJECTIVE:

Studying the depressive disorders in the Iraqi cardiac patients and its prevalence after April 2003. and trying to ascertain any mispractice in management of such patients by ignoring the psychiatric cause.

METHODS:

260 patients admitted to Baghdad teaching hospital medical departments over the period December 2005- October 2007. Those patients were having either stable angina unstable angina and myocardial infarction. A uniform questionnaire was used for all patients to find out the prevalence any psychiatric disorders.

RESULTS:

This study showed the presence of depression during the pre and post cardiac events in 70 cases (27%) anxiety was also a very common problem in about 60 cases (23%), however the percentage of patients whom were had psychiatric disorders after an acute events due to un settled security in the country since 2003 were as follow depression (21% cases 8%) from the total number of cases respectively.

CONCLUSION:

Psychiatric disorders are becoming a common problem in many Iraqi cardiac patients because of the difficulties of their daily life since 2003 and it represents about 50% of the cases of psychiatric disorders. This may make it an important issue to use antidepressant drugs in many of those patients.

KEY WORDS: psychiatric disorders, cardiac patients, Iraq.

INTRODUCTION:

Depression is prevalent in coronary heart disease and is consistently underdiagnosed by the cardiologist and primary care physicians. Studying psychiatric disorders in cardiac patients started by the concept of type A personality behavior with (ambition, time urgency, anger and hostility) have higher rate of developing coronary heart disease^(1,17) the prevalence of major depression was found in 31.5% of cases myocardial infarction while in the hospital or in the year following the incidence of myocardial infarction^(2,9) however significant depressive symptoms are found in 40-65% of patients following myocardial infarction^(3,4).

Anxiety was found in 15-25% of patients having acute coronary events⁽¹⁾. Depression may be presented in the form of anxiety, hopelessness, pessimism, anger, rumination^(5,6) these psychiatric disorders impose more suffering on cardiac patients with increased morbidity and mortality^(7,8). interventional cardiology associated

with depressive symptoms⁽⁹⁾ (i.e. During cardiac catheterization, angioplasty and coronary bypass operation) in depression there is increased activity of autonomic nervous system, increased activity of hypothalamic pituitary adreno cortical axis and hypercortisolemia. Also blood pressure will goes up, hypercreation of norepinephrine with high heart rate and increased oxygen consumption, more ischemia and higher incidence of ventricular tachyarrhythmia.

The cholesterol and free fatty acids increase in depression with direct effect on the endothelial cells function.⁽¹⁰⁾ All these mechanisms may be attributable factors for the incidence of sudden cardiac death in cardiac patients^(7,8). Some studies upon the patients with myocardial infarction showed some benefit from using the antidepressant drugs, like the use of selective serotonin receptor reuptake inhibitor (SSRI) in reducing the complication on cardiac outcome.^(10,11,12).

PATIENTS AND METHODS:

260 patients with acute cardiac event were referred to Baghdad teaching hospital department of medicine for the period of December 2005-

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October 2007. they were grouped as (109 cases of myocardial infarction) (98 cases as unstable angina) (52 cases as stable) (42%, 38%, 20% repetitively) uniform questionnaire used for all patients which included history taking, clinical examination, presence of the major risk factors (i.e. diabetes mellitus, smoking, Hypertension, dyslipidemia) a history of any psychiatric disorder pre and post cardiac events history of using antidepressant drugs or others, full list of routine blood tests, liver function tests, lipid

profile and C- reactive protein in order to exclude any medical disorder which may mimic any psychiatric disorder (like depression, anxiety schizophrenia, adjustment disorder and others by using the (I.C.D ¹⁰) in classification of these psychiatric disorders.

RESULTS:

This study showed that 70 cases (27%) of the 260 cases had of depression, also 60 cases (23%) were suffering from anxiety no one of those 260 cases where having schizophrenia as shown in Table I.

Table I: The number of psychiatric disorder in 260 cases of cardiac disorders.

Depression	Anxiety	Schizophrenia
70(27%)	60(23%)	0(0%)

Chi- square= 0.890 p=0.345 p>0.05

In those 260 cases risk factors were reviewed for their importance and their burden on the patients

to induce these psychiatric disorders as shown in table II.

Table II. Distribution of psychiatric disorder according to risk factors

Risk factors	Depression	Anxiety	Chi- square	p- value	Significant
Diabetes mellitus	20 (29%)	10 (6%)	2-282	0-048	Significant
Hypertension	24 (17%)	20 (12%)	0-118	0-371	Non significant
Smoking	30 (21%)	15 (9%)	9-696	0-002	Significant
Dyslipidemia	6 (4%)	20 (21%)	10-904	0-001	Significant
Total	80 (33%)	65 (25%)			

Of total chi- square= 14.843 p=0.002 p<0.05 significant

Those people admitted to this study were having good social support (being married, having friends and good socioeconomic status) though they have such a psychiatric disorders because of the life strain after 2003. The assessment for all patients done by psychiatrist using semistructured psychiatric interview depending on their classification by the world health organization for the psychiatric disorders (10th edition) (ICD-10). A drug history for those 260 cases demonstrated that only 8 cases from the group of depression disorder (70 cases) were taking antidepressant drug (6cases) (2%) on tricyclic antidepressant, 2

cases (1%) on selective serotonin reuptake inhibitor (SSRI)⁽¹⁴⁾ while 52 cases (20%) of cases of the 60 cases of anxiety patients group were using anxiolytic agents on irregular bases (mainly diazepam) 2-10mg daily. This showed that the use antidepressant in cardiac patients disorders is limited while the used of anxiolytic agents are more commonly used on irregular bases.

This study showed that the females have more depression than male and this probably related to the type of patients admitted in this study and reflect the presence of sociodemographic factor and increased in Iraqi women as shown in table III.

Table III: Psychiatric disorder gender association

Gender	Depression	Anxiety
Female	45(64%)	40(67%)
Male	25(36%)	20(33%)
Total	70(27%)	60(23%)

of total chi square= 0.081 p= 0.776 p>0.05 no significant

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Echocardiogram has been requested and ejection fraction has been measured in all patients in the depression group. It ranged from 50-73% while in the anxiety group it ranged from 52-65%.

Those 70 cases of depression were divided into two groups those of precardiac event and precardiac event was seen in 30% of the cases

(25% of cases due to post-traumatic stress disorder and adjustment disorder in Iraq after 2003 like kidnapping, murdering or internal migration to another place). The remaining 50% is not related to the above mentioned problems 70% of the cases of depression seen as post MI depression as shown in table IV.

Table IV: Distribution of depression in myocardial infarction patients

No. of pre- myocardial infarction depression	No. of post- myocardial infarction depression
21(30.0%)	49(70%)
Total =70	

Chi- square= 26.485 p= 0.000 p<0.001 highly significant

This table shows that a significant number of patients having a precardiac event depression. Those patients stayed in the hospital between 1-2 weeks and followed up for 30 days at the outpatient unit and the non invasive cardiac unit

at Baghdad teaching hospital regardless for the early acute event arrhythmia. There was no difference in incidence of arrhythmia between depressed cardiac patients as shown in the following table V.

Table V: Incidence of arrhythmia in myocardial infarction patients with or without depression

Type of arrhythmia	Myocardial infarction with depression	Myocardial infarction without depression	Significance
Ventricular ectopics	15	10	Chi= square=3.026 P=0.038 Significant
Atrial fibrillation	5	4	
Supraventricular tachycardia	2	3	
Ventricular tachycardia	1	4	

This table shows the significant correlation between these two groups. Again with regard to mortality as shown in VI there were two deaths in patients of MI and depression and three deaths in patients of MI with out depression.

This does not mean that depression is having protective value because the morbidity and

mortality in ischemic heart disease depending on many factors (ie severity, metabolic syndrome, other risk factors, type medication, post events cardiac complication) this has been shown in table VI.

Table VI: Myocardial infarction depression morality association

Myocardial infarction with depression		Myocardial infarction without depression		
Number of cases	Number of deaths and %	Number of cases	Number of deaths and %	p.value <0.001 highly signification
70 (27%)	2 (3%)	39 (15%)	3 (8%)	

Chi= square= 9.346 p= <0.001 highly significant

Myocardial infarction as any pathological process associated with variation in the measurement of C-reaction protein this study measured the C-reactive protein in patients with myocardial

infarction in which (the mean value of C- reactive protein in the group of myocardial infarction with depression was 606, mg/I while in the group of myocardial infarction without depression was 5-3 mg il) p value was (0-315) as shown in table VII.

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Table VII: The mean value of C- reactive protein in the two groups of myocardial infarction and in all study patients

Level of reactive protein	Myocardial infarction with depression	Myocardial infarction without depression	All patients the study
c- reactive protein mg/l	6.6 mg/l	5.3mg/l	4.2mg/l
1. p value between the myocardial infarction groups (0.325) non significant			
2. P value between each group and whole study (0-224) non significant			

Precardiac event psychiatric disorder group was 17.5% of the 70 cases of depression group (i.e 2 cases) this group was distributed in table VIII according of the types.

Table VIII: Precardiac events psychiatric disorder sin some IRAQI cardiac patients

	(Adjustment disorder)	(Greif)	(PTSD)	
Number of cases	Transfer to other place	Loss of loved person	Kidnapping (posttramaatic stress disorder B-PTSD)	Accidental explosion (post tramaatic stress disorder
	10	6	1	5=22

DISCUSSION:

This study showed that psychiatric disorder is not rare in Iraqi cardiac patients. They are usually underestimated depression seen in around 27% of cases and this fit with the results of many international studies in which around 19% of cases of survivors of myocardial infarction have depression as in Jansuzzi JI et al, Lesperance Fransure et al, Van Melle J.P et al, ^(1, 2, 5, 13). Considering risk factors especially the modifiable ones it was found in this study that they are present in most of our patients and highly significant in patient of whom are smokers and they have abnormal lipid disorder. This result fit with the study by Lee Te et al²⁰, who found that smoking have a common phenomena in people whom are psychologically abnormal and sometime homeless while other risk factors not preventable.

The cognitive activities also affected by patients whom are having depression with coronary heart fitting with the study of Mckhann GM et al, study⁹ regarding the gender it was found that around 45% of cases of depression with myocardial infarction were women. This result fit with Naq Vi TZ study in which depression in women with MI >50% higher than men mortality in not uncommon in patient whom are having myocardial infarction with depression 3% the mortality in ischemia heart disease related to more than factor in addition to depression however the result here fit with the study done by Frasure Smith et al, Glassman et al, ^{1, 13}.

Regarding the C- reactive protein it was found to be higher than normal this result correlate with the study done by Ladwig K et al²² in which he found that high c- reactive protein will lead to higher incidence of coronary heart disease if there is diabetes mellitus together in the same patients some of the results of this study were more specific to our Iraqi cardiac patients. However most of the international studies emphasize the effect of stressful environmental situation on the incidence of coronary heart disease and hysckitis disorder at the same time ^(1, 6, 16)

Lastly by having good psychiatric intervention with the possibility of using antidepressant drugs especially the selective serotonin receptor reuptake inhibitors in cardiac patients with psychiatric disorders may reduce the morbidity and mortality in such group of people ^(13, 14, 15, 16, 17, 18)

RECOMMENDATION:

1. Psychiatric disorder must be considered as an essential part of the whole medical treatment and doctors must take it in consideration.
2. All psychiatric disorders may be given the right treatment even at precardiac or postcardiac events with the good evaluation.
3. Psychiatric education for the medical and paramedical staff to understand clearly the value of psychiatric disorder.

The international medical societies must be put in the picture for the suffering of Iraqi people from increased incidence of psychiatric disorders in general after 2003.

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