

Prevalence of Fibromyalgia in Iraqi Patients with Ischemic Heart Disease

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Summary:

Background: Fibromyalgia has been associated with physical and emotional trauma including invasive medical procedures. Both Fibromyalgia and ischemic heart disease have been linked with depression. The aim of the study is to assess the prevalence of fibromyalgia syndrome in patients with ischemic heart disease.

Patients and Methods: A cross-sectional comparative study was done in the Iraqi Center for Heart Disease. One hundred patients, angiographically proved to have ischemic heart disease, were subjected to rheumatologic examination by another physician, and compared to hundred healthy individuals as a control group. Diagnosis of fibromyalgia was based on 1990 American College of Rheumatology Classification criteria for the diagnosis of fibromyalgia.

Results: Eighteen (18%) patients with ischemic heart disease fulfilled the American College of Rheumatology criteria for fibromyalgia syndrome in comparison to only 6(6%) of the controls, and this difference is statistically significant (P-value = 0.009). There were statistical significant effects of gender, age, and number of coronary vessels on the prevalence of fibromyalgia syndrome.

Conclusion: fibromyalgia occurs with high frequency (18%) in patients with ischemic heart disease.

Key words: Fibromyalgia, Ischemic heart disease

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Introduction:

Fibromyalgia (FM) is a debilitating and frustrating syndrome characterized by a chronic widespread pain and tenderness with prevalence rate of 4.9% in the general population (1). Although its pathogenesis and treatment remain unclear (2), fibromyalgia has been linked to the occurrence of various forms of physical trauma (3), infectious disorders (4), emotional trauma (5), and genetic factors (6). There appears to be considerable overlap between FM and depression with many patients carrying both diagnoses (7); and medications used for the treatment of depression are frequently implemented in the management of FM (8). Ischemic heart disease (IHD) is the leading cause of death in most industrialized nations with a clinical spectrum ranging from silent ischemia to chronic stable angina, acute myocardial infarction, ischemic cardiomyopathy, and sudden death(9). The association between coronary heart disease and depression is well documented (10), and claims have been made about the effect of depression on major outcomes, such as mortality in this context(11). The depression and anxiety following a myocardial infarction (MI) have been associated with both an increased frequency of recurrent cardiac events and increased mortality (12).

The aim of the current study was to assess the prevalence of FMS in patients with ischemic heart disease (IHD).

Patients and Methods:

A cross sectional study was done at The Iraqi Center for Heart Disease in The Specialized Surgical Hospital - Medical City in the period between March and June 2006. One hundred patients with ischemic heart disease (IHD) diagnosed on the base of clinical features, electrocardiography (ECG) , & coronary angiography were compared with another one hundred healthy individuals matched for age and sex as a control group. Patients were questioned about history of ischemic chest pain, duration of the disease, drug therapy, and concomitant diseases. Patients with IHD included in the study were having either a chronic stable angina or acute coronary syndrome (acute unstable angina). The American College of Rheumatology 1990 Classification Criteria (13) for fibromyalgia were applied to all IHD patients and healthy individuals included in the study. Individuals in both groups were inquired about the presence of chronic wide spread pain in left and right sides of the body, above and below the waist and axial skeleton for at least three months duration. They were examined for the presence of local tender points necessary for diagnosis of FMS. Each participant underwent a complete rheumatologic examination with X-ray & blood tests when indicated. Patients were excluded from the study if they had

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autoimmune disorders, inflammatory myopathy, endocrine disorders, polymyalgia rheumatica, hepatitis C, malignancy, osteomalacia, & parkinsonism.(14) A signed consent was taken from all individuals studied. Ethical approval was obtained from the Ethics Committee of Baghdad University, College of Medicine, and Medical Department.

All data coded & entered to the computer using statistical package for social science (SPSS 10). Association between discrete variables measured by Chi-Square test, difference between continuous variables measured by t-test. P-value ≤ 0.05 was considered significant.

Results:

The 100 patients with IHD (85 males & 15 females) compared with 100 healthy individuals (88 males & 12 females) as a control group. The mean age was (56.74 \pm 9.23) years for the IHD patients group, and (53.73 \pm 8.96) years for the control group (P-value= 0.4) indicating no statistical significant difference between both groups as shown in (Table 1).

Table 1: Distribution of the studied sample according to demographic characteristics:

Variables	Patients=100	Controls=100	p-value
Age(years)	56.74 \pm 9.23	53.73 \pm 8.96	0.4 ^{n.s}
Sex			
Male n.(%)	85(85)	88(88)	0.5 ^{n.s}
Female n.(%)	15(15)	12(12)	

n.s, not significant; n., number; %, percentile

The frequency of FMS in 100 patients with IHD was (18) % compared to (6) % in 100 healthy individuals (P-value = 0.009) indicating a statistical significant difference between both groups as shown in Table 2.

Table 2: Comparison of FMS in 100 IHD patients and 100 controls

Group	FMS		p-value
	FMS positive n(%)	FMSnegative n(%)	
Patients n=100	18(18)	82(82)	0.009*
Controls n=100	6(6)	94(94)	

* P-value is significant; FMS, fibromyalgia syndrome; n, number; %, percentile

There was a statistical significant association between FMS & patients' age, sex, and number of coronary vessels involved (P=0.027, P= 0.016, P=0.006 respectively) as shown in Table 3.

There was no statistical significant relationship between FMS & IHD patients characteristics(duration of the IHD disease & patients taking statin treatment) (p= 0.09, p= 0.08) respectively as shown in Table 3.

Table 3: Association of FMS with 100 IHD patients' characteristics

Variables	FMS		p-value
	Positive	Negative	
Age n(years)	18(43.77 \pm 6.60)	82(59.58 \pm 7.03)	0.027 *
Sex			
Male n.(%)	12(14.1)	73(85.9)	0.016 *
Female n.(%)	6(40)	9(60)	
Duration n(years)	18(5.04 \pm 4.87)	82(7.33 \pm 5.35)	0.09
Number of coronary vessels			
1 vessel	5(16.7)	25(83.3)	0.006 *
2 vessels	12(32.4)	25(67.6)	
3 vessels	1(3)	32(97)	
Statin Rx			
Present n(%)	12(25)	36(75)	0.08
Absent	6(11.5)	46(88.5)	

* P-value is significant; FMS, fibromyalgia syndrome; n, number; %, percentile; Rx, treatment

Discussion:

In the present study we found a significant association between FMS and IHD. Despite the recognition of FMS by World Health Organization (WHO) in 1992; it remains a controversial condition, because the diagnosis, assessment, & follow up of the syndrome still relies solely "on self reported syndrome", commonly pain and tenderness is subjective reflecting many factors like, ethnicity, age, sex, social background, underlying concomitant chronic disease and psychological stress (15). This is also true regarding management, there is no specific treatment for FMS (16), management will encompass multiple strategies, including education, stress management and aerobic exercise to help the patients cope with their symptoms and improve their quality of life (17),(18).

In the present study, the prevalence rate of FMS among Iraqi patients with IHD was found in 18 %, compared to 6 % of healthy individuals (P= 0.009) which does indicate a significant association between the two conditions. This finding agreed with another study done by Jacob NA et al (19), and Mukerji et al. (20)

In the present study, there was a statistical significant association between FMS; and patients' age, sex, & number of the coronary vessels involved by ischemia. These findings go with another study done by Jacob NA et al. (18).

In the present study, there was no statistical significant association between FMS; and duration of IHD & statin therapy used, this might be explained by the limited sample studied & the very low doses of statin received than the usual recommended dose. These findings are in agreement with other study done by Jacob NA et al. (18).

Many mechanisms might explain the association between FMS & IHD: a) coronary angiography and angioplasty, both invasive and potentially painful procedures, could constitute a physically traumatic trigger for the development of FMS. b) The stress involved in IHD could provide additional explanations for this association. c) neuroendocrine and autonomic reactions to the deleterious effects of IHD (18).

A number of limitations of the current study must be pointed out. We did not perform a detailed assessment of depression, anxiety, or coping among patients who developed tenderness and other symptoms of FMS. More detailed analyses of these parameters would better characterize these aspects and would assist in the evaluation of the association between depressions—a significant confounding risk factor in coronary heart disease—and the development of FM symptoms. The lower use of statins pose an additional limitation to the current study. Lastly, the relatively small size of the study sample must be noted. Despite these limitations, our findings call attention to a previously unrecognized possible complication of this increasingly common interventional procedure, and justify additional research for determining whether patients undergoing coronary angiography ought to be cautioned about the possibility of such an outcome. These results imply that coronary angiography may pose a risk factor for the development of FM.

We recommend following & assessing patients with IHD for fibromyalgia to get better rehabilitation & management.

Conclusion:

Fibromyalgia occurs with high frequency (18%) in patients with ischemic heart disease.

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