

## **Depression and Social Support in Patients with Exercise - Induced Myocardial Ischemia**

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### **Abstract**

**Aim:** The evaluation of the importance of depression and social support in patients with exercise - induced myocardial ischemia. **Methods and results:** We investigated 60 patients, who underwent symptom-limited exercise treadmill ECG testing. The Seattle Angina Questionnaire (SAQ) and Depression Questionnaire (The Center for Epidemiology Studies Depression Scale) were filled by the patients with positive ischemic ECG criteria. 13 patients screened high level of depression. Depressed patients had more physical limitation, more frequent angina, less satisfaction with treatment for coronary artery disease, lower perceived quality of life, than nondepressed patients. 6 unemployed patients with low social support had the high level of depression (ESP score of 16 or higher). **Conclusion:** The study emphasizes the importance of social and life stressors in development of depression in patients with cardiac disease.

**Keywords:** *quality of life, social support, physical limitation, angina, silent ischemia, depression*

### **Introduction**

The role of depression in CHD has drawn increasing attention in recent years, not only with regard to its adverse impact on prognosis among patients with established CHD but also with regard to its potential contribution to the pathogenesis of CHD (1,3). Negative life events and subjective social support related to major depression in CHD suggests that even in the context of medical illness, social factors are still important in the development of depressive disorder (2). Several types of social support have been investigated, such as instrumental support (e. g. assist with a problem), tangible support (e.g. donate goods) informational support (e. g. give advice), emotional support (e. g. give reassurance).

The aim of the present study was to evaluate the importance of depressive and social support in patients with exercise-induced myocardial ischemia.

### **Methods**

We investigated 60 patients. All the patients underwent symptom-limited exercise treadmill ECG testing (ET). The ET was performed with Modified Brice protocol. Heart rate, 12 lead ECG and blood pressure were obtained at baseline, during each 3-minute stage of exercise. In addition, the patients reported any symptoms during exercise, such as chest pain and shortness of breath. The total exercise time and exercise time and exercise ECG result was obtained from the final test report and was categorized as normal, nondiagnostic, or ischemic. The exercise ECG result

was considered nondiagnostic if baseline ECG abnormalities were present that compromised interpretation of the exercise ECG or if the patient did not exercise sufficiently to achieve an adequate heart rate. The exercise ECG result was classified as ischemic if 1mm of flat or downsloping ST-segment depression was present in 3 consecutive beats. Patients only with "ischemic" (25 (41,6%)) exercise were included in our investigation and the Seattle Angina Questionnaire

(SAQ) and Depression Questionnaire" (The Center for Epidemiological Studies Depression Scale) were filled these patients.

### **Results and Discussion**

25 patients had positive ischemic ECG criteria. 13 of them screened high level of depression (11 of them with angina pectoris during ET) significant differences were noted between depressed and nondepressed patients (Tab 1).

Depressed patients had more physical limitation, more frequent angina, less satisfaction with treatment for

coronary artery disease, lower perceived quality of life, than nondepressed patients.

This study also suggests, that the events indicators (number of negative life events and subjective social support) were related to the presence of depression. A family member becoming sick or having a decline in financial status may lead to a greater chance of developing depression, especially in the absence of social support and other health copy strategies.

In our investigation unemployed patients with low social support (6 patients) have high level of depression (ESP Score of 16 or higher).

Thus the study emphasizes the importance of social and life stressors in developing of depression in patients with cardiac disease.

Depression is associated with significantly more physical limitation, more frequent angina, less treatment satisfaction and lower perceived quality of life in patients with exercise - induced myocardial ischemia ischemia, especially in patients with angina pectoris accruing during exercise test.

<b>SAQ domains</b>	<b>depressed (level of depression &gt;16) n=13</b>	<b>non-depression (level of depression &lt;16) n=12</b>	<b>Difference</b>	<b>P</b>
Physical Limitation	36,3+-0,7	52,6+-0,5	16,3	<0,001
Angina Frequency	62,7+-0,6	72,5+-0,6	9,8	<0,001
Treatment Satisfaction	73,8+-0,5	82,3+-1,2	8,5	<0,001
Disease Perception QL	48,4+-0,9	64,2+-0,9	15,8	<0,001

**Tab.1** SAQ domains in depressed and non-depressed patients.

### **References**

1. Carols F. mendes de Leon, Harlan M.Krumholz, Depression and Risk of Coronary Heart Disease in Elderly Men and Women, AIM, Nov.23, 1998
2. K. Range Rame, Depression and Social Support in Elderly Patients with Cardiac Disease, AHJ, Sep. 1998, Vol 136
3. Maria Vittoria Pitzalis, Massima Iacoviella,, Depression but not Anxiety influences the Anatomic Control of Heart Rate after Myocardial Infarction

## **Депрессия и социальная поддержка у больных с ишемией миокарда вызванной физической нагрузкой**

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### **Р Е З Ю М Е**

Целью исследования являлась оценка роли депрессии и социальной поддержки среди больных ишемией миокарда. 25 больных с позитивными ишемическими ЭКГ критериями подверглись дальнейшему наблюдению. Всем больным были заполнены Сиэттлский опросник стенокардии (Seattle Angina Questionnaire (SAQ) и Опросник депрессивности (Depression Questionnaire The Center for Epidemiology Studies Depression Scale). Исследование показало важность социальных и жизненных стрессоров в развитии депрессии у больных сердечными заболеваниями. У больных с ишемией миокарда, вызванной физической нагрузкой, депрессия связана с большим физическим ограничением, более частыми эпизодами стенокардии, с меньшей удовлетворенностью результатами лечения, низким показателем качества жизни, особенно у больных с болевой ишемией, выявленной в течение нагрузки.

**Ключевые слова:** *качество жизни, социальная поддержка, физическое ограничение, стенокардия, безболевая ишемия, депрессия*