

## **MODIFICATION OF SOME RISK FACTORS IN PATIENTS WITH STABLE ANGINA IN TREATMENT WITH BETA-BLOCKERS AND CALCIUM CHANNEL BLOKERS**

**Bei Diana Alina**

University of Oradea, Faculty of Medicine and Farmacy, 37 Republicii Street, Oradea, Postal Code 410167, România, e-mail: [diana\\_bei@yahoo.com](mailto:diana_bei@yahoo.com)

### **Abstract**

*One of the aims of treatment in stable angina is to improve prognosis by preventing MI and death. A particular attention should be paid to the elements of lifestyle that could have contributed to the condition and which may influence prognosis, including physical activity, smoking, and dietary habits. The study was performed over a period of one year, on a number of 161 patients with stable angina, with beta-blockers and/or calcium channel blockers in treatment. To each patient was handed a questionnaire that had a series of questions on smoking status, alcohol and coffee consumption and the type of activity performed during the day. This data was calculated statistically and presented in results and discussion results showed that reducing risk factors by improving living conditions (daily stress, inactivity, smoking) was recorded in all groups of study without significant differences between the three groups.*

**Keywords:** stable angina, risk factors,

### **INTRODUCTION**

Over 300 risk factors have been associated with coronary heart disease. Some major risks are modifiable in that they can be prevented, treated, and controlled. There are considerable health benefits at all ages, for both men and women, in stopping smoking, reducing cholesterol and blood pressure, eating a healthy diet and increasing physical activity.

Reducing risk factors are the main clinical approach in preventing coronary heart disease mortality and morbidity.

Smoking is a major health problem, a major modifiable risk factor for coronary heart disease, risk stratification is based on achieving total consumption of cigarettes and the time of onset of smoking (Găiță D., 2007). The risk is significantly higher if smoking onset occurs before the age of 15 years (Ginghină C., 2010, Christakis N.A., J.H. Fowler, 2008). It has been shown that passive smoking increases the risk of coronary heart disease (Ginghină C., 2010, Christakis N.A., J.H. Fowler, 2008, Teo K.K., S. Ôunpuu, S. Hawken, et al. 2006).

Smoking acts through several mechanisms atherogenic process, increasing coronary risk by increasing total cholesterol, reduced HDL cholesterol, increase circulating fibrinogen, increased expression of tissue factor, negative affect endothelial function, platelet aggregation, increased heart rate and blood pressure with skin and coronary vasoconstriction (Ginghină C., 2010). Cessation of smoking greatly improves

both symptom and prognosis and is an effective method to reduce the risk of acute coronary disease, with immediate benefits to health.

Alcohol in moderation may be beneficial but excessive consumption is harmful, especially in patients with hypertension (Pohorecky L.A,1990, Ridker P.M. et al 1994, Sesso H.D et al 2000). It has been difficult to develop public health recommendations on safe limits of alcohol use, but moderate alcohol consumption should not be discouraged (Critchley J., S. Capewell, 2004, Di Castelnuovo A. et al 2002, Goldberg I.J. et al 2001).

Physical activity within the patient's limitations should be encouraged, as it may increase exercise tolerance, reduce symptoms, and has favourable effects on weight, blood lipids, blood pressure, glucose tolerance, and insulin sensitivity. Advice on exercise must take into account the individual's overall fitness and the severity of symptoms. An exercise test can act as a guide to the level at which an exercise programme can be initiated (Fox K., M.A. Garcia, D.Ardicino et al. 2006).

Although the role of stress in the genesis of CAD is controversial, there is no doubt that psychological factors are important in provoking attacks of angina. Furthermore, the diagnosis of angina often leads to excessive anxiety. Reasonable reassurance is essential, and patients may benefit from relaxation techniques and other methods of stress control. Appropriate programmes may reduce the need for drugs and surgery(Fox K., M.A. Garcia, D.Ardicino et al. 2006).

## **MATERIAL AND METHODS**

In the present study, 161 patients of different sex and age between 40-60 years old with stable angina, hospitalized in Emergency County Hospital Oradea, in 2010-2011, were monitored under antianginal treatment. It formed three groups of patients:

- the first group including 67 patients age between 50-70 years which were monitored under antinanginal treatment with selective beta-blockers (Metoprolol 50-100 mg/day, Atenolol 50-100mg/day, Bisoprolol 5-10mg/day);

- the second group including 50 patients age between 50-70 years which were monitored under antinanginal treatment with long-acting dihydropyridine calcium-channels blockers (Amlodipin 5-10 mg/day, Lercanidipin 10-20 mg/day, Nifedipin retard 20mg, 40 mg/day);

- the third group including 40 patients age between 50-70 years which were monitored under antinanginal selective beta-blockers and long-acting dihydropyridine calcium channel blockers in the same time (Metoprolol 50-100 mg + Amlodipin 5-10 mg, Metoprolol 50-100 mg + Lercanidipin 10-20 mg).

The general clinical examen and laboratory methods used in the present study were directed to three important aspects: investigate the prognostic, investigate the cardiovascular status, investigate the risk factors in ischemic heart disease.

To each patient it was prepared a study sheet which, in addition to identification data, it was included a number of particular elements for structuring and description of study groups. The general protocol concerns the evolution of general living conditions (smoking status, alcohol and coffee consumption, type of physical activity) in the all groups.

Statistical analysis was performed using EPIINFO application, version 6.0, program of the Center for Disease Control and Prevention - CDC (Center of Disease Control and Prevention) in Atlanta, adapted processing of medical statistics.

## RESULTS AND DISCUSSIONS

Provided that only statements patients were assessed living conditions, we obtained the following results: first, over 50% of patients were smokers, 20.5% drank alcohol daily and almost 70% of coffee consumed in excess (69.6 %). Inactivity was declared by 62.7% and 84.5% subjection to stress (table 1).

*Table 1*

The evolution of living conditions for the entire study group

Living conditions	Initially		12 months later	
	Nr.	%	Nr.	%
<b>Smoking</b>	81	50,3	68	42,2
<b>Alcohol</b>	33	20,5	29	18,0
<b>Coffee</b>	112	69,6	100	62,1
<b>Sedentarism</b>	101	62,7	94	58,4
<b>Daily stress</b>	136	84,5	131	81,4

After 12 months, 13 patients had quit smoking (16.0% of total smokers), 4 patients dropped daily consumption of alcohol (12.1%) and 12 patients had low coffee consumption (10.7%). Introduction of physical activities in daily life (walking, exercise) was declared the 7 patients (6.9%), and avoiding stress 5 patients (3.7%).

Separately analyzing smoking as a risk factor for coronary heart disease, the study results show that 50% of patients were smokers at baseline and after 12 months there was an unsatisfactory rate of 16% who quit smoking (most already having a condition for who quit smoking). Thus, the persistence of the habit of smoking in 42.2% of patients remains a

significant factor increased role in accelerating atherogenesis and the development of ischemic heart disease.

There are studies that say that smoking may interfere with the effectiveness of drugs, as is the case with beta-blockers and calcium antagonists (Gherasim L.,2004, Zevin S, NL. Benowitz, 1999). Smoking cessation was found in 8.1% of patients, which could have a positive influence on the frequency of episodes of angina, exercise tolerance on exercise test parameters and the final result, the reduction of mortality in these patients (Hortolomei V. D., V.V. Hortolomei, 2011). I noticed a positive aspect of correcting minor sedentary lifestyle, the fact that a percentage of 6.9% chose a more active lifestyle, eliminating this factor predisposing to obesity and subsequently to arteriosclerosis, although its complications.

Avoiding stress in 5 patients (3.7%) was recorded because it has great importance in that daily stress and individual personal behavior can often play a decisive role in the development of ischemic heart disease.

Reducing risk factors by improving living conditions was recorded in 15 patients, representing 9.3% of the total group.

In the group 1, after 12 months, 4 patients had quit smoking (12.5% of total smokers), one patient dropped out daily alcohol consumption (8.3%) and avoided the daily stress (1.7%) and 3 patients declined by coffee consumption (6.3%) and dropped the sedentary (6.7%). Reducing risk factors by improving living conditions was recorded in 5 patients, representing 7.5% of the total group (table 2).

In group 2 after 12 months, 4 patients had quit smoking (15.4% of total smokers), one patient dropped daily alcohol consumption (8.3%), and 5 patients had reduced consumption coffee (14.7%) and 2 patients dropped by sedentary (6.7%) have reduced daily stress (4.9%). Reducing risk factors by improving living conditions was recorded in 5 patients, representing 10.0% of the total group (table 2).

In the group 3 after 12 months, 5 patients had quit smoking (21.7% of total smokers), 2 patients dropped by daily consumption of alcohol (22.2%) dropped the sedentary (7.7%) and reduced daily stress (5.4%), and 4 patients dropped excessive coffee consumption (13.3%). Reducing risk factors by improving living conditions was recorded in 5 patients, representing 11.4% of the total group (table 2). Both at initial assessment and at the end, there were no significant differences between the 3 groups in terms of living conditions ( $p = 0.625$  and  $p = 0.451$ ).

Table 2

The evolution of living conditions compared between groups

Living conditions	Group 1		Group 2		Group 3	
<b>Initially</b>						
<b>Smoking</b>	32	47,8	26	52,0	23	52,3
<b>Alcohol</b>	12	17,9	12	24,0	9	20,5
<b>Coffee</b>	48	71,6	34	68,0	30	68,2
<b>Sedentarism</b>	45	67,2	30	60,0	26	59,1
<b>Stres cotidian</b>	58	86,6	41	82,0	37	84,1
<b>12 month later</b>						
<b>Smoking</b>	28	41,8	22	44,0	18	40,9
<b>Alcohol</b>	11	16,4	11	22,0	7	15,9
<b>Coffe</b>	45	67,2	29	58,0	26	59,1
<b>Sedentarism</b>	42	62,7	28	56,0	24	54,5
<b>Stres cotidian</b>	57	85,1	39	78,0	35	79,5

## CONCLUSIONS

Reducing risk factors by improving living conditions (daily stress, inactivity, smoking) was recorded in all groups of study without significant differences between the three groups.

Moving forward in small consecutive steps is one of the key points in long-term behavior change.

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