

THE INFLUENCE OF THE MAJOR VASCULAR EVENTS PREVENTION TREATMENT ON THE CHRONOLOGY OF THE ANGINA PECTORIS, MYCARDIAL INFARCTION AND CEREBROVASCULAR ACCIDENT

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Abstract

Studies have shown that cardiovascular events, such as angina pectoris, myocardial infarction and cerebrovascular accident are more common during the morning hours, with the second highest level in the evening, 1-11. Therefore, for example, the myocardial infarction can occur at any time of the day or night, but it is more frequent in the morning, in the first hours after waking up.

This circadian peak may be due to the combination of the increased sympathetic tone and the increased thrombosis tendency between 6:00-12:00 A.M.

Key words: cardiovascular accident, myocardial infarction, circadian peak, physiological parameters, prophylactic therapy.

INTRODUCTION

In patients following prevention therapy for these diseases, it is expected that the above-mentioned model change due to the variation of the physiological parameters, due to the medication and their lifestyle change.(Beamer et al 1987, Peters et al,1989,Kontopoulos et.al 1999,Burger et al 1999)

The few studies conducted so far, which followed the occurrence schedule of the major cardiovascular events, have highlighted a decrease in the morning onset peak of the major cardiovascular events. (Hjalmarson et.al 1989,Sturock et al1989,Eguchi et al2008,Kikuja et.al 2005).

Consequently, we have set out to study the time of occurrence of cardiovascular events, such as the myocardial infarction, the angina pectoris and the cerebral accident, in patients for whom pharmacological prevention methods were applied, in comparison to the patients who are not following a

prophylactic therapy (Ridker et al 1990, Frishman et al 1999, White et al 1998, Franklin et al 1996).

Beta-blockers are drugs adrenoceptor nor cheap, safe and effective for use alone or associated with diuretics or calcium antagonists, alpha-blockers in moderate forms of hypertension, use of beta-blockers alone can normalize presional amounts to about 40-60% of the patients (Elliot et al 1998, Cohen et al. 1997, Pell et al 1963, Pedoe et al 1975, Thompson et al 1985, Muller et al 1985).

Along with diuretics, this class has proven its ability to reduce cardiovascular events. (Mattioli et al 1986, Wroe et al 1992, Bhala et al 2001)

MATERIAL AND METHODS

The study was conducted over a 2 year period (2013 – 2015); it included patients who came to the Arad Emergency Room, with symptoms suggesting angina pectoris, acute myocardial infarction or cerebro-vascular accident, later confirmed electrocardiographically, enzymatically or by a skull CT examination.

After the patients or their caregivers signed the consent to participated in the study, data was collected regarding the demographic features, the history of cardiovascular diseases for which they were admitted, the occurrence time of the cardiovascular event and the previously used drugs. The filtering criteria were the information inconsistency and the noncompliance with the previously administered treatments, including their irregular administering.

Subsequently, the patients were divided into two groups, based on the presence or lack of a prevention treatment for major vascular events.

Each group was further divided into three subgroups, depending on the type of vascular event: the first subgroup included the patients with angina pectoris (subgroup AP), the second included the patients with myocardial infarction (MI) and the third included the patients with cerebro-vascular accident (CVA). In order to have a significant statistical processing, the selection period ended only when each subgroup had at least fifty participants.

RESULTS AND DISCUSSIONS

The group of patients being treated for cardiovascular diseases included a number of 156 patients (group P), and the group of patients who had no previous medication included 158 people (group NP).

Table 1

The composition of the study groups

	P Group N=156	NP Group N=158
Subgroup AP	50	51
Subgroup IM	51	50
Subgroup AVC	55	57

Table 2

Characteristics of patients included in the study

	Average	Minimum	Maximum	Standard deviation
age	67,67	48,00	84,00	11,74
Troponin I	1,36	0,02	7,60	2,20
Total cholesterol mg/dl	201,98	114,00	384,00	61,99
HDL cholesterol, mg/dl	32,68	24,00	48,00	5,78
TG, mg/dl	173,80	52,00	666,00	118,74
C-reactive protein, mg/dl	1,72	0,043	13,91	2,53

There were no significant differences in terms of age, in the two groups.

Thus, the patients from the P group had an average of $67,84 \pm 11,77$ years, compared to the patients from the NP group, who averaged $67,50 \pm 11,74$ years, $p=0,79$.

Table 3

Area of origin of the patients in group NP, in the 3 subgroups

		Lotul NP		
	Area of origins	Subgroup - AP	Subgroup - IM	Subgroup - AVC
No. patients	town	31	30	35
%		60,78%	60,00%	61,40%
No. patients	country	20	20	22
%		39,22%	40,00%	38,60%

CONCLUSIONS

The current data in the specialty literature, regarding the influence of major cardio or cerebrovascular event preventive drugs are few; currently, there are only two studies conducted on small groups of patients, that have reported the possibility of changing the chronobiology of the aforementioned manifestations.

The average age of the patients included in our study, who have exhibited major cardio or cerebrovascular events was $67,67 \pm 11,74$ years, with no significant variations between the two groups of patients.

The use of medication for preventive purposes of the major cardio or cerebrovascular events modifies their chronobiology.

Males have an increased risk of major vascular events, even when prophylactic methods are applied, possibly due to the tardy therapeutic intervention, in an advanced stage of the atherosclerosis process

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