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SIGNIFICANCE OF SYSTOLIC AND DIASTOLIC BLOOD PRESSURE DAILY PROFILE TYPES IN CLINICAL EVALUATION OF HYPERTENSIVE PATIENTS

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The characteristics of the arterial hypertension (AH) clinical signs according to the types of diastolic blood pressure (DPB) daily profile in comparison with systolic blood pressure (SBP) daily profile types in 82 patients (33 men and 49 women), mean aged 56 ± 11 years, were studied. Statistical analysis was performed on a PC using the «Microsoft Office Excel 2010» and «STATISTICA» programs. It was found that DPB is as important as SPB hemodynamic parameter in patients with AH, and violation of its circadian rhythm leads to AH potentiating. To higher risk of DBP pathological daily profile types prone females, patients with a short history and the initial stages of AH. Evaluation of DBP daily profile carries additional information about the course of the disease and should be performed in all patients with AH.

KEY WORDS: hypertension, ambulatory blood pressure monitoring, diastolic blood pressure, systolic blood pressure

ЗНАЧЕННЯ ТИПІВ ДОБОВИХ ПРОФІЛЕЙ СИСТОЛІЧНОГО ТА ДІАСТОЛІЧНОГО АРТЕРІАЛЬНОГО ТИСКУ В КЛІНІЧНІЙ ОЦІНЦІ ПАЦІЄНТІВ З ГІПЕРТОНІЧНОЮ ХВОРОБОЮ

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Вивчено частотні характеристики клінічних ознак гіпертонічної хвороби (ГХ) залежно від типів добового профілю діастолічного (ДАТ) в порівнянні з типами добового профілю систолічного артеріального тиску (САТ) у 82 пацієнтів (33 чоловіків і 49 жінок) у віці 56 ± 11 років. Статистична обробка результатів проведена на персональному комп'ютері за допомогою програм «Microsoft Office Excel 2010» та «STATISTICA». Встановлено, що ДАТ є таким же важливим, як і САД, параметром гемодинаміки у пацієнтів з ГХ і порушення його добового ритму призводить до обтяження захворювання. До патологічних типів добового профілю ДАТ більш схильні особи жіночої статі, пацієнти з коротким анамнезом та початковими стадіями ГХ. Оцінка добового профілю ДАТ несе додаткову інформацію про перебіг захворювання і повинна проводитися у всіх пацієнтів з ГХ.

КЛЮЧОВІ СЛОВА: гіпертонічна хвороба, добове моніторування артеріального тиску, діастолічний артеріальний тиск, систолічний артеріальний тиск

ЗНАЧЕНИЕ ТИПОВ СУТОЧНЫХ ПРОФИЛЕЙ САД И ДАД В КЛИНИЧЕСКОЙ ОЦЕНКЕ ПАЦИЕНТОВ С ГИПЕРТОНИЧЕСКОЙ БОЛЕЗНЬЮ

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Изучены частотные характеристики клинических признаков гипертонической болезни (ГБ) в зависимости от типов суточного профиля диастолического (ДАД) в сравнении с типами суточного профиля систолического артериального давления (САД) у 82 пациентов (33 мужчин и 49 женщин) в возрасте 56 ± 11 лет. Статистическая обработка результатов произведена на персональном компьютере при помощи программ «Microsoft Office Excel 2010» и «STATISTICA». Установлено, что ДАД является таким же важным, как и САД, параметром гемодинамики у пациентов с ГБ и нарушение его суточного ритма приводит к утяжелению заболевания. Более высокому риску патологических типов суточного профиля ДАД подвержены лица женского пола, пациенты с коротким анамнезом и начальными стадиями ГБ. Оценка суточного профиля ДАД несёт дополнительную информацию о течении заболевания и должна проводиться у всех пациентов с ГБ.

КЛЮЧЕВЫЕ СЛОВА: гипертоническая болезнь, суточное мониторирование артериального давления, диастолическое артериальное давление, систолическое артериальное давление

INTRODUCTION

With the introduction of ambulatory blood pressure monitoring (ABPM) in clinical practice, a number of new parameters came in sight as predictors of cardiovascular (CV) mortality and morbidity, one of which is the type of daily blood pressure (BP) profile [1]. The paradigm shift of diastolic blood pressure (DBP) significance as a CV risk factor in the late 90-ies of the last century led to the fact that at present the vast majority of scientific works are studied diurnal profiles of only systolic blood pressure (SBP) [2–3].

However, the DBP still is an independent risk factor of CV morbidity and mortality, and in patients below 50 years even more strong than SBP and pulse pressure (PP) are [4–5].

Systolic and diastolic hypertension differs in their pathogenesis. The first one is mainly determined by large arteries stiffness, while the second one is associated with arterioles vasoconstriction [6]. It is also important that intensive antihypertensive therapy, directed to achievement SBP target levels, often leads to a significant drop in DBP, which in its turn leads to a decrease in myocardial perfusion and increases the risk of CV morbidity and acute CV events [7].

Taking into account the DBP significance as a CV morbidity and mortality risk factor, assessment of its daily profile, along with SBP daily profile, will allow to determine the degree of CV risk more accurately and to provide an individual approach to each patient with elevated blood pressure [7].

However, there are few data about the role of DBP daily profile violations in patients with arterial hypertension (AH), and we did not find any study in which SBP and DBP profiles were compared.

OBJECTIVE

To study the significance of DBP daily profile types compared with SBP daily profiles in the clinical evaluation of patients with AH.

MATERIALS AND METHODS

On the clinical base of the Kharkov city outpatient clinic № 24 82 patients with AH were examined. The study involved 33 men (40 %) and 49 women (60 %). Average age 56 ± 11 years. The average duration of AH 8 ± 6,7 years.

Exclusion criteria were secondary hypertension, hemodynamically significant valvular heart disease, cardiomyopathy of any genesis, heart failure stage III, FC IV by NYHA, any acute condition (infection, trauma, surgery) within the previous 3 months, chronic diseases in stage of decompensation or exacerbation, cancer, as well as any circumstances that hinder the conduction of ABPM.

Newly diagnosed AH was detected in 9 % of patients. AH of stage I was diagnosed in 13 % of patients, stage II – in 72 %, stage III – 15 %. AH of 1 grade was determined in 54 % of patients, grade 2 – 32 %, grade 3 – 15 %. Heart failure (HF) was diagnosed in 74 % cases: HF stage I – 43 %, HF stage IIA – 57 %, I functional class (FC) of HF was determined in 27 % of patients, II FC – 66 %, III FC – 7 %; coronary heart disease (CHD) – 76 % of cases: stable angina (I–III FC) – 22 %, postinfarction cardiosclerosis (PICS) – 4 %. Obesity was found in 55 % of patients, I degree – 32 %, II degree – 15 %, III degree – 9 %.

SBP profile of «dipper» type was set in 43 % of patients, «nondipper» – 44 %, «night-piker» – 7 %, «overdipper» – 6 %. DBP daily profile of «dipper» type was defined in 35 % of cases, «nondipper»–- 27 %, «night-piker» – 4 %, «overdipper» – 34 %.

Patients were divided into 8 groups – 4 groups according to the type of SBP daily profile and 4 groups in accordance with DBP daily profile type.

All patients underwent such tests: measurement of weight and height, body mass index (BMI) calculation, ABPM.

ABPM was performed using a computer system «Kardiosens» (HAI Medica, Ukraine) with the oscillometric method of blood pressure measurement. The monitoring was performed in the conditions of patient normal working day, the cuff was placed at the non-dominant arm using an appropriately sized cuff. According to Ambulatory Blood Pressure Monitoring International Recommendations 2013 [8], blood pressure was measured every 15 minutes during the day and 30 minutes at

night. Daytime and night-time periods were defined based on a diary, in which participants were asked to record their activities and sleep times during the monitoring session. Editing ABPM, in accordance Ambulatory Blood Pressure Monitoring International Recommendations [8] if any value outside preset limits (see below) was detected during a recording, that measurement was rejected:

– systolic blood pressure (SBP) > 250 or < 70 mm Hg,

– diastolic blood pressure (DBP)> 150 or < 40 mm Hg,

– pulse pressure (PP) > 150 or < 20 mm Hg,

– heart rate (HR) > 200 or < 20 per minute.

Also ABPM data series were considered invalid for analysis in the following cases:

– absence of ≥ 30 % of the scheduled measurements,

– lack of data for > 2 consecutive hourly intervals,

– if patient maintained an irregular rest-activity schedule during consecutive 24-h periods of monitoring,

– if the nighttime sleep span was < 6 h or > 12 h [8].

To define the daily profile the nocturnal BP dip was quantified as the relative decline in mean BP from awake (daytime) to asleep (night-time) periods, and was calculated for SBP, DBP and PP separately using the following equation: ((mean awake BP – mean asleep BP) / mean awake BP)×100 %. Depending on the value of this ration the following types of daily BP profile were defined: «dipper» – physiological decrease in BP during the night – sleep-time relative BP decline 10–20 %; «overdipper» - an excessive fall in BP at night, sleep-time relative BP decline > 20 %; «nondipper» – the lack of BP reduction at night, sleep-time relative BP decline < 10 %; «night-peaker» – night-time BP more than during daily activity, sleep-time relative BP decline < 0 [8].

We determined the frequency ratio of the clinical characteristics of AH – sex, age, BMI, AH stage, grade and duration, the presence of concomitant coronary artery disease, heart failure, acute cardiovascular events in anamnesis, – for each type of daily profile, depending on the selected ABPM index, and compared pairs of SBP and DBP profiles type.

Calculation of ABPM indices was performed using «Kardiosens» program. Data were analyzed with the software «Microsoft Office Excel 2010» and «STATISTICA», with the clinical signs frequency of occurrence assessment in percent (P) ± standard deviation of percent (Sd_P).

RESULTS AND DISCUSSION

In groups of dippers, female patients observed in 1.8 times more frequently in DBP-group, male patients – in two times more frequently in SBP-group. The frequencies of occurrence of patients up to 50 years and of 50–69 y.o. between the groups were not significantly different. Elderly patients were in 3.6 times more common among the SBP-dippers than among DBP-dippers (Tabl. 1a, 1b).

In groups of nondippers incidence of male and female patients did not differ significantly, but women were more common among the SBP-nondippers, men – among the DBP-nondippers. Patients under the age of 50 years met in 2.4 times more frequently among the SBP-nondippers elderly patients and patients of 50–69 y.o. were more common among the DBP-nondippers (Tabl. 1a, 1b).

In groups of night-peakers, female patients were more common among the DBP-night-peakers, male patients – among SBP-night-peakers. All patients in night-peakers groups were 50–69 y.o. (Tabl. 1a, 1b).

Table 1a

Sex and age of patients with AH, depending on the daily profile of SBP, P (%) ± SD_P

		SBP daily profile types			
		Dipper, N = 35	Nondipper, N = 36	Night-piker, N = 6	Overdipper, N = 5
Sex	male	60 ± 49 **	33 ± 47 **	50 ± 50	80 ± 40
	female	40 ± 49 *	67 ± 47 *	50 ± 50	20 ± 40
Age	up to 50 years	26 ± 44	22 ± 42	0	40 ± 49
	50-69 years	63 ± 48 *	67 ± 47 *	100	60 ± 49
	≥ 70 years	11 ± 32	11 ± 31	0	0

*Note: * $p < 0,05$; ** $p < 0,1$.*

Table 1b

Sex and age of patients with AH, depending on the daily profile of DBP, P (%) ± SD_P

		DBP daily profile types			
		Dipper, N = 29	Nondipper, N = 22	Night-piker, N = 3	Overdipper, N = 28
Sex	male	28 ± 45	41 ± 49	33 ± 47	54 ± 50 *
	female	72 ± 45 *	59 ± 49 *	67 ± 47	46 ± 50 **
Age	up to 50 years	28 ± 45	9 ± 29	0	32 ± 47 **
	50–69 years	69 ± 46 *	77 ± 42 *	100	54 ± 50 *
	≥ 70 years	3 ± 18	14 ± 34	0	14 ± 35

*Note: * p < 0,05; ** p < 0,1.*

In groups of overdippers female patients occurred in 2.3 times more frequently among DBP-overdippers, male patients – in 1.5 times more frequently among the SBP-overdippers. Patients up to 50 and 50–69 y.o. were more common among the SBP-overdippers, elderly patients in SBP-overdippers group were absent and in DBP-overdippers group constituted 1/7 of all cases (Tabl. 1a, 1b).

In groups of dippers frequencies of occurrence of AH stages and degrees were not significantly different. In SBP-dippers group patients with AH duration up to 5 years and 5–10 years were predominant, while in the group of DBP-dippers patients with 10–5 years and more than 10 years of AH duration dominated (Tabl. 2a, 2b).

In groups of nondippers incidence of AH stage I were not significantly different. The incidence of AH stage II was higher among SBP-nondippers, stage III – among DBP-nondippers. The frequencies of occurrence of AH 1 and 3 degrees were higher in the DBP-nondippers group, AH grade 2 was more common among SBP-nondippers. The frequency of occurrence of AH with duration up to 5 years among the SBP-nondippers was higher by more than 2.5 times, and in group of DBP-nondippers patients with AH duration of 5–10 years and more dominated (Tabl. 2a, 2b)

In groups of night-peakers incidence of AH I stage was higher among DBP-night-peakers, AH III stage – in SBP-night-peakers, AH II stage occurred with equal frequency in both treatment groups. The incidence of AH 1 degree was higher among DBP-night-peakers, AH 3 degree - in the SBP-night-peakers group. AH of 2 degree was absent in these groups. Also, in both groups, there were no patients with newly diagnosed AH. Patients with AH duration up to 5 years were more frequent in DBP-night-peakers group, 5–10 years duration and more – in SBP-night-peakers group (Tabl. 2a, 2b).

Table 2a

AH clinical characteristics frequencies of occurrence depending on the daily profile of SBP, P (%) ± SD_P

		SBP daily profile types			
		Dipper, N = 35	Nondipper, N = 36	Night-piker, N = 6	Overdipper, N = 5
AH stage	I	17 ± 38	8 ± 28	17 ± 37	20 ± 40
	II	74 ± 44 *	81 ± 40 *	33 ± 47	40 ± 49
	III	9 ± 8	11 ± 3	50 ± 50	40 ± 49
AH degree	1	46 ± 50 *	58 ± 49 *	83 ± 37 *	40 ± 49
	2	31 ± 46 **	25 ± 43	0	40 ± 49
	3	23 ± 42	17 ± 37	17 ± 37	20 ± 40
AH duration	newly diagnosed	9 ± 28	8 ± 28	0	20 ± 40
	up to 5 years	31 ± 46 **	25 ± 43 **	17 ± 37	20 ± 40
	5–10 years	37 ± 48 **	28 ± 45 **	50 ± 50	60 ± 49
	more than 10 years	23 ± 42	39 ± 49	33 ± 47	0

*Note: * p < 0,05; ** p < 0,1.*

Table 2b

AH clinical characteristics frequencies of occurrence depending on the daily profile of DBP, P (%) ± SD_P

		DBP daily profile types			
		Dipper, N = 29	Nondipper, N = 22	Night-piker, N = 3	Overdipper, N = 28
AH stage	I	17 ± 38	21 ± 5	33 ± 47	14 ± 35
	II	76 ± 43 *	73 ± 45 *	33 ± 47	71 ± 45 *
	III	7 ± 25	23 ± 42	33 ± 47	14 ± 35
AH degree	1	52 ± 50 *	64 ± 48 *	100	43 ± 49 **
	2	28 ± 45	14 ± 34	0	39 ± 49 **
	3	21 ± 41	23 ± 42	0	18 ± 38
AH duration	newly diagnosed	7 ± 25	9 ± 29	0	11 ± 31
	up to 5 years	28 ± 45	9 ± 29	67 ± 47	36 ± 48 **
	5-10 years	31 ± 46 **	36 ± 48	33 ± 47	39 ± 49 **
	more than 10 years	34 ± 48 **	45 ± 50 **	0	14 ± 35

*Note: * p < 0,05; ** p < 0,1.*

In groups of overdippers AH stage I and III were more frequent in SBP-overdippers group, AH II stage – in DBP-overdippers group. The AH degrees frequencies of occurrence were not significantly different in overdippers groups. Newly diagnosed AH was more common in SBP-overdippers group. Patients with AH duration up to 5 years and more than 10 years were more frequent in DBP-overdippers group, with AH duration of 5–10 years – in SBP-overdippers group (Tabl. 2a, 2b).

In groups of dippers HF met with the same frequency. In SBP-dippers group incidence of HF stage I was lower than in DBP-dippers group, whereas HF stage IIA was more common among SBP-dippers. The HF of I and II FC frequencies of occurrence were higher in SBP-dippers group, the HF III FC frequency of occurrence was not significantly different between groups (Tabl. 3a, 3b).

In groups of nondippers HF frequency of occurrence was higher among DBP-nondippers. The HF I and IIA clinical stage frequencies of occurrence, as well as frequencies of HF I and III FC significantly between the groups did not differ, while the incidence of HF II FC was higher among SBP-nondippers (Tabl. 3a, 3b).

In groups of night-peakers HF frequency of occurrence was higher among SBP-night-peakers, in this group the incidence of HF stage II A was also higher. HF I clinical stage met with equal frequency in both groups. The incidence of HF I FC was higher among SBP-night-peakers, II FC- among DBP-night-peakers, whereas patients with HF III FC in both groups were absent (Tabl. 3a, 3b).

Table 3a

Heart failure frequency of occurrence depending on the daily profile of SBP, P (%) ± SD_P

		SBP daily profile types			
		Dipper, N = 35	Nondipper, N = 36	Night-piker, N = 6	Overdipper, N = 5
HF	present	69 ± 46 *	81 ± 40 *	83 ± 37 *	60 ± 49
	absent	31 ± 46 **	19 ± 40	17 ± 37	40 ± 49
HF clinical stage	I	37 ± 48 **	50 ± 50 *	33 ± 47	40 ± 49
	II A	31 ± 46 **	50 ± 50 *	50 ± 50	20 ± 40
HF FC	I	26 ± 44	25 ± 43	33 ± 47	40 ± 49
	II	37 ± 48 **	67 ± 47 *	50 ± 50	0
	III	23 ± 6	8 ± 28	0	20 ± 40

*Note: * p < 0,05; ** p < 0,1.*

Table 3b

Heart failure frequency of occurrence depending on the daily profile of DBP, P (%) ± SD_P

		DBP daily profile types			
		Dipper, N = 29	Nondipper, N = 22	Night-piker, N = 3	Overdipper, N = 28
HF	present	69 ± 46 *	91 ± 29 *	67 ± 47	71 ± 45 *
	absent	31 ± 46 **	9 ± 29	33 ± 47	29 ± 45 **
HF clinical stage	I	45 ± 50 **	45 ± 50 **	33 ± 47	43 ± 49 **
	II A	24 ± 43	45 ± 50 **	33 ± 47	29 ± 45
HF FC	I	31 ± 46 **	23 ± 42	0	29 ± 45
	II	31 ± 46 **	59 ± 49 *	67 ± 47	64 ± 48 **
	III	7 ± 25	9 ± 29	0	7 ± 26

*Note: * p < 0,05; ** p < 0,1.*

In groups of overdippers HF frequency of occurrence was higher among DBP-overdippers. The incidence of HF stage I significantly between groups did not differ, IIA stage of HF was more frequent in the group of DBP-overdippers. The frequency of HF I FC significantly did not differ between the groups, while the incidence of HF III FC was higher among SBP-overdippers than in the group of DBP-overdippers in 3 times. Patients with HF II FC in the group of SBP-overdippers were absent and among DBP-overdippers totaled more than half of all cases (Tabl. 3a, 3b).

In groups of dippers CHD met in 1.5 times more frequently among DBP-dippers than among SBP-dippers. Incidence of stable angina did not differ between the groups. In DBP-dippers group patients with I and III FC of angina were absent, the incidence of FC II of angina was higher among DBP-dippers. Acute CV events in anamnesis among SBP-dippers occurred at a low frequency, while in the group of DBP-dippers were absent (Tabl. 4a, 4b).

In groups of nondippers CHD and stable angina occurred with greater frequency in the group of DBP-nondippers in both groups angina of II FC was met more frequently, with the highest frequency among DBP-nondippers. The frequency of acute CV events in anamnesis in group of DBP-nondippers exceeded that one among SBP-nondippers in 3 times (Tabl. 4a, 4b).

In groups of night-peakers incidence of CHD and stable angina was higher among SBP-night-peakers. In DBP-night-peakers group stable angina was not met at all. The incidence of acute CV events in anamnesis was higher in the SBP night-peakers group (Tabl. 4a, 4b).

Table 4a

The incidence of CHD and acute CV events in anamnesis, depending on the daily profile of SBP, P (%) ± SD_P

		SBP daily profile types			
		Dipper, N = 35	Nondipper, N = 36	Night-piker, N = 6	Overdipper, N = 5
CHD		43 ± 49 *	78 ± 42 *	83 ± 37 *	60 ± 49
Stable angina		14 ± 35	25 ± 43	50 ± 50	20 ± 40
FC of angina	I	9 ± 28	3 ± 16	17 ± 37	0
	II	3 ± 17	22 ± 42 *	33 ± 47	20 ± 40
	III	3 ± 17	0	0	0
Acute CV events in anamnesis		3 ± 17	23 ± 6	50 ± 50	40 ± 49

*Note: * p < 0,05; ** p < 0,1.*

Table 4b

The incidence of CHD and acute CV events in anamnesis, depending on the daily profile of DBP, P (%) ± SD_P

		DBP daily profile types			
		Dipper, N = 29	Nondipper, N = 22	Night-piker, N = 3	Overdipper, N = 28
CHD		66 ± 9 *	95 ± 21 *	67 ± 47	71 ± 45 *
Stable angina		14 ± 6	36 ± 48	0	18 ± 38
FC of angina	I	0	9 ± 29	0	11 ± 31
	II	14 ± 6	27 ± 45	0	4 ± 19
	III	0	0	0	4 ± 19
Acute CV events in anamnesis		0	18 ± 39	33 ± 47	11 ± 31

*Note: * p < 0,05; ** p < 0,1.*

In groups of overdippers frequency of CHD was higher among DBP overdippers. The frequencies of occurrence of stable angina significantly between groups did not differ. Angina of I FC was more common among DBP-overdippers, II FC – among SBP-overdippers. Angina of III FC was rarely met in the group of DBP-overdippers and was absent in the group of SBP-overdippers. The frequency of acute CV events in anamnesis was higher among SBP-overdippers (Tabl. 4a, 4b).

In groups of dippers obesity incidence was higher among SBP-dippers, with a predominance of patients with obesity of I degree. The frequency of II and III degree of obesity did not differ significantly between the groups (Tabl. 5a, 5b).

In groups of nondippers the incidence of obesity and its degrees were not significantly different (Tabl. 5a, 5b).

Table 5a

The incidence of obesity, depending on the daily profile of SBP, P (%) ± SD_P

		SBP daily profile types			
		Dipper, N = 35	Nondipper, N = 36	Night-piker, N = 6	Overdipper, N = 5
BMI	Normal weight	9 ± 28	14 ± 35	33 ± 47	0
	Overweight	31 ± 46 **	33 ± 47 **	33 ± 47	40 ± 49
	Obesity, total	57 ± 49 *	53 ± 50 *	33 ± 47	60 ± 49
	Obesity I	43 ± 49 *	25 ± 43	33 ± 47	0
	Obesity II	11 ± 32	14 ± 35	0	60 ± 49
	Obesity III	3 ± 17	14 ± 35	0	0

*Note: * p < 0,05; ** p < 0,1.*

Table 5b

The incidence of obesity, depending on the daily profile of DBP, P (%) ± SD_P

		DBP daily profile types			
		Dipper, N = 29	Nondipper, N = 22	Night-piker, N = 3	Overdipper, N = 28
BMI	Normal weight	14 ± 34	18 ± 39	33 ± 47	4 ± 19
	Overweight	34 ± 48 **	32 ± 47	33 ± 47	32 ± 47 **
	Obesity, total	52 ± 50 *	50 ± 50 **	33 ± 47	64 ± 48 *
	Obesity I	38 ± 49 **	23 ± 42	0	36 ± 48 **
	Obesity II	10 ± 30	14 ± 34	0	21 ± 41
	Obesity III	3 ± 18	14 ± 34	33 ± 47	7 ± 26

*Note: * p < 0,05; ** p < 0,1.*

In groups of night-peakers obesity incidence did not differ between the groups. Among SBP-night-peakers all obese patients had I degree, in DBP-night-peakers group – III degree (Tabl. 5a, 5b).

Among DBP-overdippers obesity incidence was higher than that in SBP-overdippers group. Patients with I and III degree of obesity in SBP-overdippers group were absent, the obesity incidence of II grade was higher among SBP-overdippers (Tabl. 5a, 5b).

Our results concerning to SBP daily profile types correspond to [9–13] and confirm that the infringement of its circadian rhythm leads to a burdening of AH and complications development. The results in reference to DBP daily profile types in comparison with SBP ones are new and show DBP daily profile types independent significance in the assessment of the AH severity.

The fact that female patients prevailed among dippers, night-peakers and overdippers in DBP groups, and male – among dippers, night-peakers and overdippers in SBP groups, suggests that disorders of DBP daily profile more common develop among women, whereas SBP pathological daily patterns more common among men.

The predominance of the initial stages of AH and its first degree among such prognostic unfavorable types of circadian blood pressure profile as overdipper and night-peakers in DBP groups talks about the primary violation of DBP pattern in AH development. This is also confirmed by our findings in relation to AH duration – among overdippers and night-peakers in DBP groups' patients with short history of AH – up to 5 years – dominated.

The prevalence of heart failure and coronary artery disease in DBP groups of nondippers and overdippers may be indicative of a more rapid development of CV disease in patients with pathological types of DBP daily profile.

CONCLUSIONS

1. DBP is as important as the SBP hemodynamic parameter in patients with hypertension
2. Violation of DBP daily rhythm leads to ФР burdening.
3. Evaluation of DBP daily profile carries additional information in AH assessment.
4. Higher risk of DBP daily profile pathological type's development have females, with a short history of AH and its initial stages.
5. Assessment of DBP daily profile, together with SBP daily profile evaluation, should be performed in all patients with hypertension.

PERSPECTIVES OF FURTHER RESEARCH

It seems appropriate to study the value of DBP daily profile monitoring in patients with AH, using antihypertensive drugs of different pharmacological groups.

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