6. Degertekin M. Persistent inhibition of neointimal hyperplasia after sirolimus-eluting stent implantation: long-term (up to 2 years) clinical, angiographic, and intravascular ultrasound follow-up (FIM)/ M. Degertekin M., P.W. Serruys, D.P. Foley et al. //Circulation. - 2002 – V.106- P. 1610-3.
7. Maier W. The European Registry of Cardiac Catheter Interventions 1997, of the working group Coronary Circulation of the ECC/ W. Maier, P. Camici, S. Windecker et all.//European H. J.- 2002. - V. 23.- N.24.- P.1903-1908.
8. Moris M.S. A randomized comparison of a sirolimus-eluting stent with a standart stent for coronary revascularization (RAVEL)/ M.S. Moris, P.W. Serruys, J.E. Sousa et al.// N. Engl. J. Med.- 2002.- 346.- P. 1773-80.
9. Pfisterer M. Late clinical events after clopidogrel discontinuation may limit benefit of drug-eluting stents: an observational study of drug-eluting versus bare-metal stents/ M. Pfisterer, H.P. Brunnar-La Rocca, P.T. Buser, P. Rickenbacher et all/ J. Am. Coll. Cardiol.- 2006.- 48: P.2584-2591.
10. Radke P.W. Outcome after treatment of coronary in-stent restenosis; results from a systematic review using meta-analysis techniques/ P.W. Radke, A. Kaiser, C. Frost, U. Sigwart// Eur. Heart J.- 2003.- 24.- P. 266-273.
11. Schampaert E. The Canadian study of the sirolimus-eluting stent in the treatment of patients with long de novo lesions in small native coronary arteries (C-SIRIUS)/ E. Schampaert, E.A. Cohen, M. Schluter et al. // J. Am. Coll. Cardiol.- 2004.- V. 43.- P. 1

УДК 616.12-008.318.3(571.56)

The indices of heart rate turbulence In indigenous and non-indigenous residents of Yakutia

Tarabukina L.V., Abrosimova S.G.

The aim of the research is to investigate the indices of heart rate turbulence among indigenous and non- indigenous residents of Yakutia.

The patients with different diagnoses who were directed to the Holter ECG monitoring at the department of functional diagnosis by the doctors of cardiology clinical advisory department of RH № 1-NCM were examined.

The pathological values of HRT were registered more often among non-indigenous residents of Yakutia, in the older age group and patients with a strong family history.

Abnormal values were parameter of TO.

Keywords: heart rate turbulence, indigenous and non- indigenous residents of Yakutia.

Introduction: Heart rate turbulence (HRT) characterizes the response of sinus node to ventricular ectopic activity, it was introduced in electrocardiography from 1999, as a new noninvasive index. The interest to this index in recent years increased with both clinical and prognostic point of view in the different patient groups. As for patients with coronary heart disease assessment of indices of HRT is a strong risk predictor of mortality in post infarction patients [7]. The search of predicts of cardiac death is also relevant for patients with non-coronary heart disease. The researchers investigated the indices of HRT in diabetes [2], congestive heart failure [6], idiopathic dilated cardiomyopathy [10]. In a number of publications the age-gender specifics of HRT were identified [8].

The aim of the research is to investigate the indices of heart rate turbulence among indigenous and non- indigenous residents of Yakutia.

Materials and methods: 73 patients with different diagnoses were involved in the research, 25 women (42,9%), 48 men (57,1%), who were directed to the Holter ECG monitoring at the department of functional diagnosis by the doctors of cardiology clinical advisory department of RH № 1-NCM were examined.

The average is 53, 81 ± 1,02 years. 57,5% are the indigenous people of Yakutia of total number of patients, 42,5% - non-indigenous. 34 (46,6%) patients have strong family history of diseases of the cardiovascular system (coronary artery disease, hypertension), 11 (15,1%) patients have type 2 diabetes. 39 (53,4%) patients have the diagnosis of CHD, also stable effort angina of I-III FC (Canadian Cardiovascular Society classification), CHF of FC I-II (NYHA) post infarction cardiosclerosis. 52 (71,2%) patients have the diagnosis of hypertension I-III degree. 12 (16,4%) patients have coronary artery revascularization (stenting, heart bypass). According to echocardiogram of left ventricular hypertrophy (LVH) were detected at 22 (30,1%) patients, left ventricular ejection fraction (LVEF) was 65,38 ± 0,95% (Table 1). The Holter ECG monitoring was held on a system of «Mars II» (Germany) with modified bipolar recording of three ECG which reflects the potentials of the front, side walls of the left ventricle of heart. The average daily, average daytime, nighttime heart rate, circadian rhythm index (CI), the heart rate turbulence parameters (HRT, segment ischemic changes ST were determined.

Depending on the values of numerical indices of HRT, patients were divided into 2 groups. 1 group consisted of 55 patients with normal values of the indices HR (TO <0%, TS> 2,5 mc / RR), 2 group - 18 patients with pathological values of indices of HRT (TO> 0%, TS <2,5% mc / RR).

In the statistical analysis the t-test criterion by Student's was used at a value $p \leq 0,05$ (confidence level for the median 95%).

Results and screening: During the analysis of data it was found (Table 2) that the pathological values of indices of HRT were more prevalent in patients of older age group, 58,11 ± 2,14 vs. 52,4 ± 1,11 ($p = 0,015$), more often in men than in women, 14 (77,8%) and 4 (22,2%). In some publications noted the gender and age influence on some indices of the autonomic nervous system, also on the indices of HRT [9], as well as small manifestation of HRT in the older age group [8]. According to other researchers, among patients with sudden cardiac death (SCD) the pathological response of sinus node in the form of anomalous of HRT for all types of ventricular ectopy met more often in males than females [1]. The normal values of indices of HRT detected in 34 (61.8%) indigenous and 21 (38,2%) non-indigenous residents of Yakutia. The pathological indices of HRT detected more frequently in non-indigenous (55.6%) patients with a strong family history of cardio - vascular system (66,7%) ($p = 0,05$), with a diagnosis of CHD (66,7%), hypertension I, II, III degree (94,4%) ($p = 0,029$). 34.5% patients with post infarction cardiosclerosis detected the normal indices of HRT, 27.8% - abnormal. The pathological indices of HRT were investigated in patients in myocardial infarction for the first time [7], and considered as independent predictors for overall mortality. In work of other researchers found that a weakened parameter of TO restore after 12 months after acute myocardial infarction, and TS remained unchanged [4].

In the analysis of heart rate in groups - an average daily rates, the daytime average, nighttime heart rate did not differ significantly. Ventricular ectopic activity of high grade was recorded in both groups. According to ECHO CG the left ventricular hypertrophy was among 44,4% patients with abnormal and 25.4% patients with normal values of HRT.

During the investigation the indices of HRT in patients with hypertrophic cardiomyopathy Kawasaki T. and his colleagues found that the values of TO and TS did not differ from the control group [5].

Myocardial revascularization suffered in 22.2% patients of II group and 9,1% - I group.

In work of researchers noted a significant weakening of HRT in patients with coronary artery bypass surgery, a possible connection with damage of autonomic nervous endings in the

aortic clamping. Restore the parameter of TO noted at 12 months, while the parameter of TS is reduced [3].

LVEF in the groups did not differ, 64,44 ± 1,84% and 65,69 ± 1,12%.

The pathological values of the parameter of TO recorded in II group patients. The indices of TS were within normal range.

In the analysis the indices of HRT in II group patients revealed that the pathological indices of TO registered in 11 patients (61,1%), TS - in 3 (16,7%), TO and TS - 4 (22,2%). The pathological significance of HRT were identified in 8 patients indigenous and 10 non-indigenous residents of Yakutia (Table 3). The average values of TO for non-indigenous residents were higher than those of indigenous, 2,02 ± 0,50 and 0,27 ± 0,24 (p = 0,011). Ventricular ectopic activity of high grade was registered more often in indigenous residents of Yakutia. In non-indigenous - ventricular ectopy of 1-2 classes. 87,5% of indigenous patients have CHD and 8,5% have AH, 100% of non- indigenous patients have AG and 50% have CHD.

Conclusion

The pathological values the indices of TCP was registered more often in non-indigenous residents of Yakutia, in the older age group, patients with a strong family history. The parameter of TO were pathological.

(Table 1)

№	Indices	n-73
1.	Age	53,81±1,02
2.	Men	48 (65,8%)
3.	Women	25 (34,2%)
4.	The indigenous residents of Yakutia	42 (57,5%)
5.	Non-indigenous residents of Yakutia	31 (42,5%)
6.	Have a strong family history	34 (46,6%)
7.	Patients with coronary artery disease	39 (53,4%)
8.	Patients with hypertension	52 (71,2%)
9.	Patients with type 2 diabetes	55 (39,3%)
10.	Revascularization of coronary arteries	12 (16,4%)
11.	LVH	22 (30,1%)

12.	LVEF	65,38 ±0,95

(Table 2)

№	Indices	I group n=55	II group n=18
1.	Age	52,40±1,11	58,11±2,14*
2.	Men	34 (61,8%)	14 (77,8%)
3.	Women	21 (38?2%)	4 (22,2%)
4.	The indigenous residents of Yakutia	34 (61,8%)	8 (44,4%)
5.	Non-indigenous residents of Yakutia	21 (38,2%)	10 (55,6%)
6.	Have a strong family history	34 (46,6%)	34 (50,7%)*
7.	Patients with coronary artery disease	27 (49%)	12 (66,7%)
8.	Patients with hypertension	35 (63,6%)	17 (94,4%)*
9.	Patients with type 2 diabetes	8 (14,5%)	3 (16,7)
10.	Revascularization of coronary arteries	7 (12,7%)	5 (27,8%)
11.	LVH	14 (25,4%)	8 (44,4%)
12.	LVEF	65,38±0,95	68,21±0,90
13.	Average daily HR	71,76±1,19	75,44±2,78
14.	Average daytime HR	76,15±1,36	81,39±3,05
15.	Nighttime heart rate HR	63,45±1,27	66,06±2,33
16.	Circadian index	1,20±0,17	1,23±0,31
17.	Supraventricular ectopy	38 (69,1%)	12 (66,7%)
18.	Including steam NZHE + SVT	17 (30,9%)	6 (33,3%)
19.	Ventricular ectopy	54 (98,2%)	18 (100%)
20.	Including VE 1-2 classes	19 (34,5%)	9 (50,0%)
21.	Including PVC of high grade	35 (63,6%)	9 (50,0%)
22.	Daytime circadian VE	21 (38,2%)	8 (44,4%)
23.	Night circadian VE	2 (3,6%)	4 (22,2%)
24.	Mixed circadian VE	31 (56,4%)	6 (33,3)
25.	Ischemic ST segment changes	8 (14,5%)	3 (16,7%)
26.	Values of TO	-2,56±0,19	1,25±0,36 ***
27.	Values of TS	10,97±1,45	6,47±2,42
28.	TO>0%	-	11 (61,1%)
29.	TS<2,5/mc RR	-	3 (16,7%)
30.	TO+TS	-	4 (22,22%)

p≤0,05*: p≤0,01** : p≤ 0,001

(Table 3)

№	Indices	I group n=55	II group n=18
1.	Age	60,0±2,54	56,60±3,32
2.	Men	7 (87,5%)	7 (70,7%)
3.	Women	1 (12,5%)	3 (30,0%)
4.	Have a strong family history	5 (62,5%)	7 (70,0%)
5.	Patients with coronary artery disease	7 (87,5%)	5 (50,0%)*
6.	Patients with hypertension	7 (87,5%)	10 (100%)
7.	Patients with type 2 diabetes	1 (12,5%)	2 (20,0%)
8.	Revascularization of coronary arteries	2 (25,0%)	3 (30,0%)
9.	LVH	4 (50,0%)	4 (40,0%)
10.	LVEF	63,25±2,81	65,40±2,52
11.	Average daily HR	75,88±5,17	75,10±3,11
12.	Average daytime HR	80,25±6,18	82,30±2,77
13.	Nighttime heart rate HR	66,38±3,40	65,80±3,35
14.	Circadian index	1,19±0,04	1,26±0,04
15.	Supraventricular ectopy	6 (75,0%)	6 (60,0%)
16.	Including steam NZHE + SVT	4 (50,0%)	2 (20,0%)
17.	Ventricular ectopy	8 (100%)	10 (10%)
18.	Including VE 1-2 classes	2 (25,0%)	7 (70,0%)
19.	Including PVC high grade	6 (75,0%)	3 (30,0%)
20.	Daytime circadian VE	4 (50,0%)	4 (40,0%)
21.	Night circadian VE	1 (12,5%)	3 (30,0%)
22.	Mixed circadian VE	3 (37,5%)	3 (30,0%)
23.	Ischemic ST segment changes	3 (37,5%)	1 (10,0%)
24.	Values of TO	0,27±0,24	2,02±0,50**
25.	Values of TS	3,23±0,66	9,07±4,25
26.	TO>0%	5 (62,5%)	6 (60,0%)
27.	TS<2,5/mc RR	2 (25,0%)	1 (10,0%)
28.	TO+TS	1 (12,5%)	3 (30,0%)

p≤0,05*: p≤0,01** : p≤ 0,001

1. Gender indicators of autonomic imbalance in patients with sudden cardiac death / A. Tsvetnikova [et al.] // Vestnik of St Petersburg State Medical Academy named after I.I. Mechnikov. App.-2007. – Vol. 2 .- P. 187-188.

UDC 616.831-005.1-055.53 (571.56-25).

Efremova A.I., Tatarinova O. V., Nikitin J.P., Shishkin S.V.,
Simonova G.I., Shcherbakova L.V

Strokes in the elderly and long-livers of Yakutsk

Epidemiological indexes of prevalence of cerebral stroke are studied. Gender and ethnic features of cerebral stroke prevalence according to population screening of Yakutsk residents at the age of 60 years and elder are shown.

Keywords: strokes, prevalence.

Introduction

The stroke is on the second place in structure of the causes of mortality and is the major cause of physical inability in Russia. 75 % of strokes go to on age elder than 60 years [1].

For last 7 years in population of Yakutsk deterioration of epidemiological situation concerning a stroke, bound to growth of morbidity and a tendency to growth of mortality [2] is observed.

Objective: To estimate frequency, gender and ethnic features of a cerebral stroke in subjects of 60 years and senior, living in Yakutia, on an example of Yakutsk city population.

Background and methods

For carrying out of population screening representative sample of Yakutsk residents in number of 600 persons at the age of 60 years and senior has been generated on the basis of service records. The surveyed have been divided according to sex: men (256 - 43 %) and women (344 - 57 %) and to age decades (60-69 yrs, 70-79, 80-89 and 90 years and senior). According to ethnicity two groups are marked out: indigenous ethnos (Yakuts, Evens, Evenks) - 277 and non-indigenous ethnos (Russians, Ukrainians, Byelorussians, Germans, Finns) - 323 persons (mean age of the surveyed - 75 yrs).