

THE IMPACT OF CORONAVIRUS INFECTION ON SABP DYNAMICS IN PATIENTS WITH HYPERTENSION

Majidov Sharifjon Xusenovich

Osiyo xalqaro universitetida Assistant

E-mail: smajidov70@gmail.com

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Abstract. When the risk factors of cardiovascular diseases come together, it can lead to diseases with damage to many blood vessels. Due to the specific location of the coronary stenosis zone in ischemic KMP, it leads to a sharp violation of vascular permeability, which in turn causes damage to a large part of the myocardium, resulting in severe ischemic stress and pain that is accompanied by a decrease in myocardial capacity. It is manifested by a complex of symptoms [1]. Thus, identifying the main risk factors (trigger factors) of the development of IKMP and predicting (predicting) the development of IKMP in patients with ischemic heart disease is an important link in the primary and secondary prevention of ischemic heart disease [2].

Keywords: myocardial infarction, dilatation, ischemia, hypertension, hibernation, inflammation, left ventricle, right ventricle, COVID19.

ВЛИЯНИЕ КОРОНАВИРУСНОЙ ИНФЕКЦИИ НА ДИНАМИКУ САД У БОЛЬНЫХ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ

Аннотация. Когда факторы риска сердечно-сосудистых заболеваний объединяются, это может привести к заболеваниям с поражением многих кровеносных сосудов. В связи со спецификой расположения зоны коронарного стеноза при ишемическом КМП происходит резкое нарушение проницаемости сосудов, что в свою очередь вызывает повреждение значительной части миокарда, что приводит к выраженному ишемическому напряжению и боли, что сопровождается снижением емкости миокарда. Проявляется комплексом симптомов [1]. Таким образом, выявление основных факторов риска (триггерных факторов) развития ВМК и прогнозирование (предсказание) развития ВМК у больных ишемической болезнью сердца является важным звеном первичной и вторичной профилактики ишемической болезни сердца [2].

Ключевые слова: инфаркт миокарда, дилатация, ишемия, гипертония, гибернация, воспаление, левый желудочек, правый желудочек, COVID19.

According to the research design, 74 patients were recruited. The average age of patients was 53.54 ± 1.92 years, the average duration of hypertension was 8.61 years. In the general group, the initial SAB was 158.87 ± 16.04 mm.s.ust, DAB was 96.15 ± 8.34 mm.s.ust, and the average AB was 117.06 ± 9.33 mm.s.ust. Depending on the history of coronavirus infection, the patients were

divided into 2 groups: group I - hypertensive patients who had COVID19 (COVID19 (+)) one month before inclusion in the study (n=42) and group II - hypertensive patients who did not have COVID19 (COVID19(-)). The initial indicators of SAB and DAB did not differ in both groups (Table 2.1). It should also be noted that both groups were matched for age and did not differ in such parameters as BMI, LVH, LVDD and the number of patients with dyslipidemia. It should be noted that the duration of hypertension was significantly longer in the group of patients with COVID19 (+) hypertension. During 6 months of AGT, against the background of stabilization of SAB and DAB, a significant improvement in the general clinical condition of patients was observed, which was associated with a decrease in headache, dizziness and heaviness in the back of the head. The drugs were well tolerated by patients, no significant adverse events were observed.

By the end of 6 months of therapy in the general group (Table 3.1), the degree of decrease in office SAB values was $-21.2 \pm 7.7\%$, DBP $-17.8 \pm 8.7\%$, mean blood pressure $-19.99 \pm 6.6\%$, in all cases $p=0.000$. At the same time, the target values of SAB were achieved in 71 (96.0%), DAB - in 70 (95.0%), SAB and DAB simultaneously in 72 (97.0%). In the group of patients with hypertension, COVID19(+) AGT was generally characterized by satisfactory clinical efficacy and tolerability.

The degree of reduction in SBP, DBP and mean BP: $21.6 \pm 7.97\%$, $17.8 \pm 7.9\%$, $19.5 \pm 6.5\%$, in all cases $p=0.005$

Target values of SAB were achieved in 39 (93%), DAB in 40 (95.0%), SAB and DAB simultaneously in 40 (95%) patients. In the group of patients with hypertension COVID19(-), AGT was also characterized by satisfactory clinical efficacy. The degree of reduction in SAB, DAB and mean PB: $22.8 \pm 7.3\%$, $18.4 \pm 9.8\%$, $20.6 \pm 6.8\%$, in all cases $p=0.000$. Target values of SAB were achieved in 32 (100%), DAB in 30 (94.0%), SAB and DAB simultaneously in 32 (100%) patients.

Comparatively, no differences were found in the dynamics of blood pressure indicators in both groups (Fig. 1). Both groups had high antihypertensive efficacy.

Table 1. Dynamics of office blood pressure parameters in patients with and without COVID-19 with hypertension against the background of 6 months of antihypertensive therapy.

In general, positive dynamics of SPAB indicators were observed in both groups of COVID19(+) and COVID19(-) patients with hypertension. In particular, the average daily, average daytime and average nighttime indicators of SAB and DAB, as well as the increased daytime and evening indicators of the loading index SAB and DAB significantly decreased against the background of 6 months of AGT (Table 3.2). In addition, the average daily SAB indicators in the group of COVID19(+) patients with AG initially amounted to 135.38 ± 10.25 mm.s.s., and in dynamics – 127.0 ± 5.73 mm.s.s. ($p<0.05$). In the group of patients with arterial hypertension COVID19(-) - 133.43 ± 20.44 mm.sym.ust, in dynamics 127.86 ± 16.8 mm.sym.ust

($p<0.05$); In the group of patients with COVID19(+) - AG, the average daytime SAB was initially 137.25 ± 10.93 mm.sym.ust, in dynamics - 128.5 ± 5.48 mm.sym.ust ($p<0.05$). In the group of

Indicator		General group, n=74	COVID19(+) n=43	COVID19(-) n=32
SAB (mm.sim.ust)		158.87 ± 16.04	157.02 ± 14.01	161.30 ± 18.30
		$123.24\pm10.66^*$	$123.10\pm10.47^*$	$123.44\pm7.23^*$
DAB (mm.sim.ust)		96.15 ± 8.34	95.83 ± 8.26	96.56 ± 8.56
		$78.29\pm6.25^*$	$78.33\pm8.91^*$	$78.24\pm6.76^*$
Mid AB (mm.sim.ust)		117.06 ± 9.33	116.23 ± 8.76	118.14 ± 10.06
		$93.27\pm6.64^*$	$93.25\pm7.12^*$	$93.31\pm6.09^*$
YQS , ta/min ^{±1}		78.74 ± 8.82	80.29 ± 10.84	76.53 ± 4.61
		$70.88\pm3.93^*$	$71.10\pm4.27^*$	$70.41\pm3.43^*$
$\Delta\%$ SAB		21.236 ± 7.69	21.16 ± 7.97	22.815 ± 7.34
$\Delta\%$ DAB		17.780 ± 8.71	17.81 ± 7.91	18.375 ± 9.77
$\Delta\%$ mid AB		- 19.989 ± 6.61	-19.50 ± 6.49	-20.619 ± 6.85
Target achieved	SAB	71 (96%)	39 (93%)	32 (100%)
	DAB	70 (95%)	40 (95%)	30 (94%)
	SAB+DAB	72 (97%)	40 (95%)	32 (100%)

patients with COVID19(-) AG - 136.0 ± 21.36 mm.sym.ust, in dynamics 128.0 ± 9.5 mm.sym.ust ($p<0.02$); Average daytime DAB in the group of patients with arterial hypertension COVID19(+) was initially 88.88 ± 7.51 mm.s.m.s., in dynamics - 82.25 ± 7.05 mm.s.m.s. ($p<0.05$), in the group of patients with AG COVID19(-) was initially 92.0 ± 17.57 mm.s.m.s. . in dynamics 82.6 ± 9.10 mm.s.m.s. ($p<0.05$); Average nighttime SAB values in the group of patients with AG COVID19(+) were initially 129.12 ± 9.57 mm.s.m.s. , in dynamics - 121.38 ± 9.71 mm.s.m.s. ($p<0.02$), in the group of patients with AG COVID19(-) - 127.57 ± 18.27 mm.s.m.s., in dynamics 120.57 ± 19.91 mm.s.m.s. ($p<0.05$); The average nighttime DAD in the group of COVID19(+) patients with AG was initially 83.25 ± 11.04 mm.sym.sup., in dynamics - 70.75 ± 7.81 mm.sym.sup. ($p<0.001$), in the group of COVID19(-) patients with AG - 83.86 ± 14.8 mm.sym.sup., in dynamics - 65.0 ± 18.2 mm.sym.sup. ($p<0.02$).

The daytime and nighttime load index values decreased, the daytime load index decreased significantly and reached normal values. In particular, in the group of patients with COVID19(+) hypertension, the daytime INSAB index was initially 36.08 ± 28.11 mm Hg. In dynamics, it was 16.0 ± 10.56 mm Hg ($p<0.05$) In the group of patients with arterial hypertension COVID19(-)

initially - 35.6 ± 13.96 mm Hg, in dynamics, it was 16.32 ± 17.1 mm Hg ($p < 0.02$); The daytime INDAB index in patients with arterial hypertension who had COVID-19 was initially 46.0 ± 25.76 mm.s.m.s., in dynamics - 12.6 ± 14.8 mm.s.m.s. ($p < 0.001$) and in the group of patients with arterial hypertension who did not have COVID-19, it was initially 54.4 ± 28.43 mm.s.m.s., in dynamics - 12.1 ± 19.1 mm.s.m.s. ($p < 0.05$); The nocturnal INSAB in the group of patients with arterial hypertension COVID19(+) was initially 69.0 ± 16.9 mm.s.m.s., in dynamics - 54.2 ± 18.38 mm.s.m.s. ($p < 0.05$) and in the group of patients with arterial hypertension COVID19(-) - 74.4 ± 30.95 mm.s.m.s., respectively, in dynamics - 56.16 ± 29.08 mm.s.m.s. ($p < 0.05$); The nocturnal INSAB indicator in patients with arterial hypertension COVID19(+) was initially 48.42 ± 28.47 mm.s.m.s. In dynamics - 21.2 ± 28.5 mm.s.m.s. ($p < 0.02$) and in the group of patients with arterial hypertension COVID19(-) - 53.2 ± 36.49 mm.s.m.s. and, accordingly, in dynamics - 20.9 ± 26.5 mm.s.m.s. ($p < 0.05$).

It should be noted that the average DAB variability, diurnal SAB variability and diurnal DAB variability were significantly reduced only in the group of patients with arterial hypertension who did not have COVID19 (-). Also, the average DAB variability in the group of patients who did not have COVID19 (-) was initially 13.8 ± 2.86 mm.s.m.s.; in dynamics - 10.5 ± 2.61 mm.s.m.s. ($p < 0.02$); The daytime SAB variability in the same group was initially 15.7 ± 3.86 mm.s.m.s.; in dynamics - 11.54 ± 1.44 mm.s.m.s. ($p < 0.02$); The daytime DAB variability was initially 12.98 ± 3.33 mm.s.m.s., in dynamics - 9.32 ± 1.12 mm.s.m.s. ($p < 0.001$). It should also be noted that in terms of the degree of nocturnal decrease in SAB (CHC CAД), a sharp improvement in nocturnal blood pressure was observed with a high degree of reliability in the group of patients with COVID19(-) hypertension, which initially amounted to 5.31 ± 5.88 mm.sym.ust, in dynamics - 11.6 ± 3.81 mm.sym.ust ($p < 0.001$), reaching standard values.

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