

## Specific Characteristics of Hypertensive Crisis in Elderly Patients

*Saidov Kh. Kh., Tulaboeva G. M., Tursunov Kh. Kh., Mangasaryan A. A., Kamolov B. B.,  
Tolipova Yu. Sh., Abdukodirova N. M.*

*Center for the development of professional qualifications of medical personnel*

**Annotation:** This study aims to analyze the specific characteristics of hypertensive crises in elderly patients, particularly those with a history of Covid-19. Hypertensive crises, including both complicated and uncomplicated types, are prevalent among elderly individuals with arterial hypertension. The study examines 110 patients aged 60 and older, divided into two groups based on their Covid-19 history. The findings show that patients with a history of viral infection exhibit a higher incidence of both complicated and uncomplicated hypertensive crises. Complications such as acute brain damage, pulmonary edema, and acute coronary syndrome are notably more frequent in these patients. Furthermore, clinical symptoms such as dizziness, headache, and neurological deficits are more pronounced in the group with prior viral infection. The study underscores the need for targeted management strategies for elderly hypertensive patients with a history of Covid-19.

**Keywords:** Hypertensive crisis, elderly patients, Covid-19, arterial hypertension, acute brain damage, pulmonary edema, acute coronary syndrome, clinical symptoms, viral infection, cardiovascular complications.

**Relevance.** Arterial hypertension According to the World Health Organization, about 40% of the population of the earth has high blood pressure, if 17 million die from complications observed by the cardiovascular system, and 9.4 million have arterial hypertension [5].

According to the data obtained by the STAT register, it was found that in our elderly patients, there is a higher incidence of uncomplicated and complicated types of hypertensive crisis, and it is not wrong to say that this has been proven in clinical practice [6].

Kovid-19 is also considered a risk factor in the development of arterial hypertension and the increase of complications caused by it. Autopsy results of 20 patients who died at the University Hospital "Basel" showed that almost all of them had symptoms of hypertension, obesity, and 2/3 of them had atherosclerotic damage of coronary arteries [1,2].

Factors that determine the "bad" prognosis of Kovid-19 include the elderly and patients with arterial hypertension, as well as lung diseases, chronic kidney disease, obesity, as well as ischemic heart disease, tachycardia, increased levels of D-dimer, troponin and ferritin. cases are no exception [3,4]. Despite many recommendations for the treatment of elderly patients with cardiovascular disease and Covid-19, a number of problems related to improving the clinical condition of patients and their therapy require further research.

The purpose of the scientific work: to analyze the specific features of the hypertensive crisis in elderly patients.

### Inspection object and methods

110 patients with AG over 60 years of age were included in the study. Inspections were conducted in the central medical association of Jizzakh region, Gallaorol district from 2020 to 2021.

Patients who met the following criteria were included in the study;

- ✓ Patients with AG and "Kovid-19" in their medical history,
- ✓ Patients older than 60 years

✓ Those who agreed to participate in the research.

The gerontological age of patients was determined according to the classification recommended by the World Health Organization in 2016. According to the classification, young people - 18 to 44 years old, middle-aged people - 45 to 59 years old, old people - 60 to 74 years old, old people - 75 to 90 years old, long-lived people - 90 years old and older.

The guidelines given by the Russian (2019) and European Society of Arterial Hypertension (2018) were used to diagnose AG. SAB's 140 mm. wire. above, and DAB was recognized as AG in the situation above 90.

Patients with the following diagnoses were not included in the investigation; Secondary type of AG, acute myocardial infarction (recorded within the last 6 months), 2b and 3 stages of chronic heart failure, patients with serious types of cardiac arrhythmias, patients with serious changes in the liver and kidneys. The types of hypertensive crises, their complications and clinics were fully analyzed in patients. Patients were divided into 2 groups based on the presence or absence of Covid-19 in the medical history: group 1 (main) patients consisted of 54 patients, these patients had viral infection in the medical history, and group 2 (n=56, control group) patients had Covid-19 not recorded. Duration of arterial hypertension was established from 8 to 12 years.

The obtained data were statistically processed using the Microsoft Office Excel-2013 software package on a Pentium IV personal computer, including the STATISTICA-6.0 software package. Variational parametric and non-parametric statistical methods were used to calculate the arithmetic mean of the studied indicator (M), mean square deviation (SD), standard error (m), relative values (frequency, %), statistical significance of the measurements obtained when comparing the average values. A confidence level of  $r < 0.05$  was accepted for statistically significant changes.

### The results obtained

According to the results, in our elderly patients, the uncomplicated type of hypertensive crisis has a higher rate of 34% ( $p < 0.01$ ) compared to the complicated type, that is, the complicated type of hypertensive crisis was found in 47 (43%) and uncomplicated type in 63 (57%) patients. (table.1).

**№.1. Table. Intergroup analysis of hypertensive paralysis (%)**

№	Indicators studied	Total N=110		Group 1 n=54		Group 2 N=56	
		n	%	n	%	n	%
1	Complicated type of hypertensive crisis (CTHC)	47	43	29	54***	18	32
2	uncomplicated type of hypertensive crisis (UTHC)	63	57	25	46***	38	68

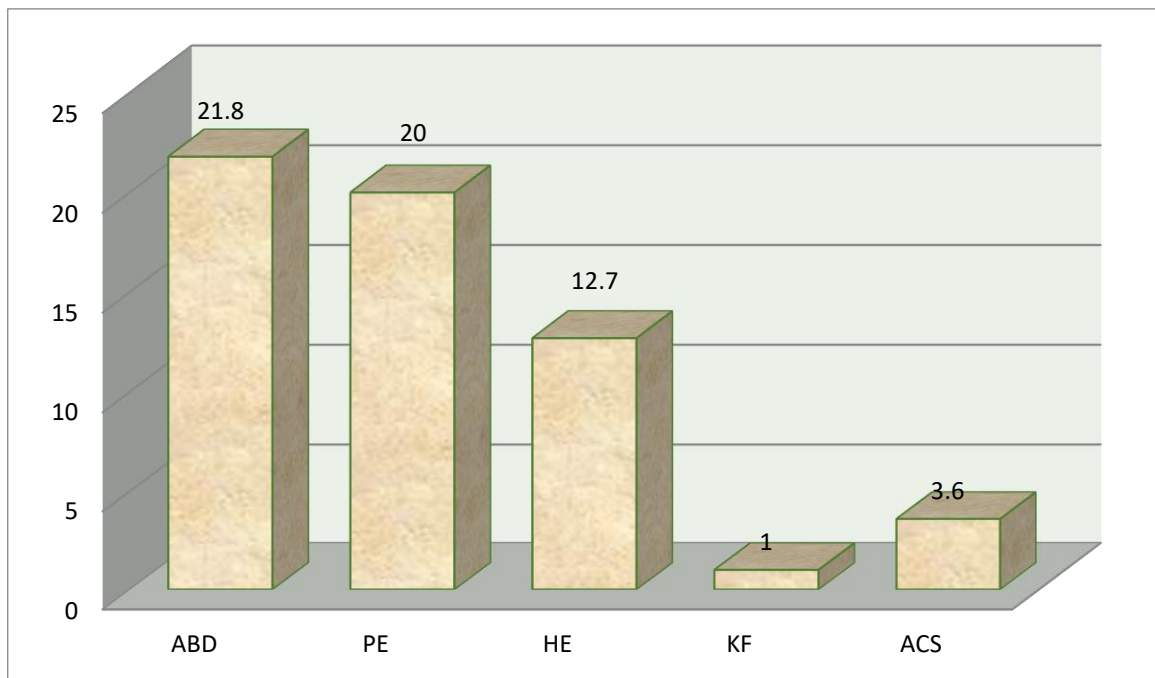
Appendix:\*\*\* $p < 0.001$  between-groups confidence interval

Analysis of the frequency of hypertensive crisis between groups does not show differences between them. For example, CTHC was detected in 29 out of 54 (54%) patients in group 1, and in 18 (32%) out of 56 patients in group 2. It can be seen that group 1 patients are superior to group 2 patients with 62% ( $p < 0.001$ ) on CTHC.

Analysis of UTHC type encounters replicated the same pattern. It was noted in 25 (46%) patients of the 1st group, 38 (68%) of the patients of the 2nd group, and 52% ( $p < 0.001$ ) of the patients of the 1st group prevailed in this regard.

Next, we analyzed the types of complications of hypertensive crisis. The results of the analysis showed that 21.8% (n=24) of our elderly patients had acute brain damage (ischemic type), 20% (n=22) had

pulmonary edema and 12.7% (n=14) hypertensive encephalopathy took place. Therefore, 1% (n=1) patients had kidney failure and 4 (3.8%) patients had acute coronary syndrome (Fig. 1).



Appendix: ABD- acute brain damage, PE-pulmonary edema, HE-hypertensive encephalopathy, KF- kidney failure, ACS-acute coronary syndrome

**Figure 1. Analysis of clinical types of hypertensive crisis (%)**

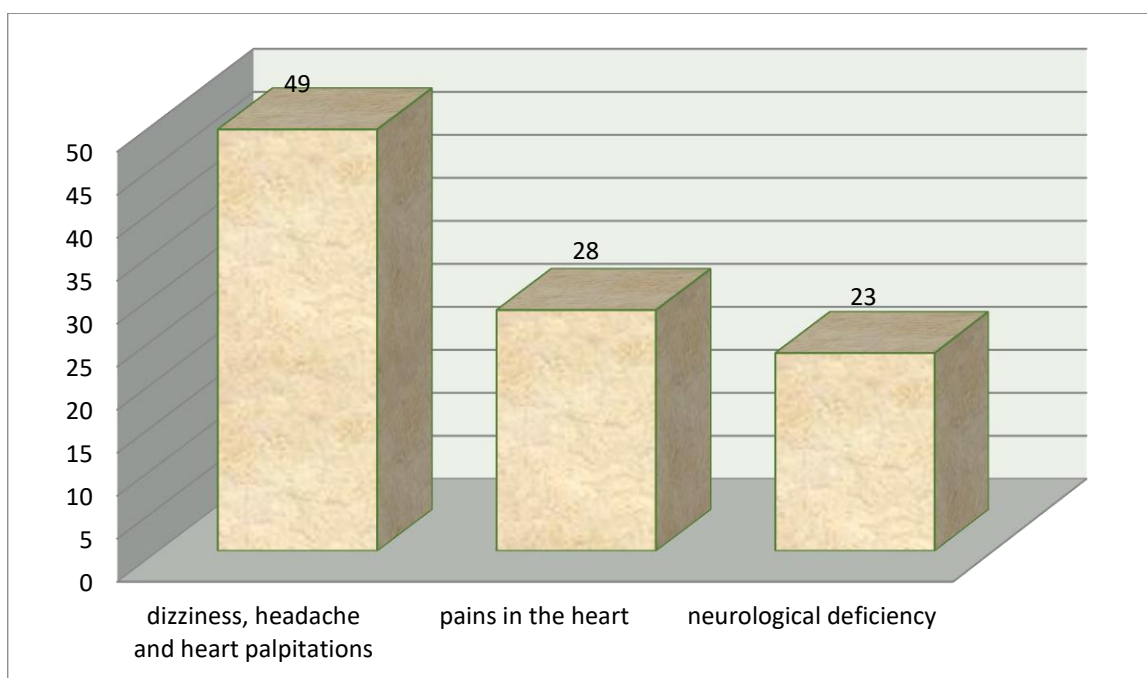
According to the data presented in the table, the majority of complications correspond to patients of group 1, that is, compared to patients of group 2, ABD is 60% (p<0.001), PE is 29% (p<0.001), ACS is 33% (p<0.001) proved to be convincingly high. At the same time, it should be emphasized that, although not in a convincing indicator, HE was embodied in a higher value compared to patients of group 1 - 57% against 43%. KE was applied only to group 1 patients (table.2).

**№.2. Table. Intergroup analysis of clinical types of hypertensive crisis**

№	Indicators studied	Total N=110		Group 1 n=54		Group 2 N=56	
		n	%	n	%	n	%
1	ABD	24	21,8	15	62,5***	9	37,5
2	PE	22	20	17	77,3***	5	23
3	HE	14	12,7	8	57	6	43
4	KF	1	1	1	1		
5	ACS	4	3,6	3	75***	1	25

Appendix:\*\*\*p<0.001 between-groups confidence interval

Analyzing the complaints of patients brought to the hospital with hypertensive crisis, 49% (n=54) of patients had dizziness, headache, and heart palpitations. 28% (n=31) of patients had heart pain and 23% (n=25) had neurological deficits. was determined (Fig. 2).



**Figure. 2. Patient Clinic Analysis (%)**

**№3. Table. Intergroup analysis of clinical characteristics of patients**

№	Indicators studied	Total N=110		Group 1 n=54		Group 2 N=56	
		n	%	n	%	n	%
1	dizziness, headache and heart palpitations	54	49	32	59,2***	22	39,3
2	pains in the heart	31	28	16	29,6	12	21,4
3	neurological deficiency	25	23	14	25,9*	11	19,6

Appendix: \* $p < 0,05$ ; \*\*\* $p < 0.001$  between-groups confidence interval

When we analyzed the patient complaints between groups, we found a significant difference and these differences were equal to the reliable value. For example, 59.2% of group 1 patients were disturbed by dizziness, headache, and palpitations, while 39.3% of group 2 patients experienced these clinical signs, that is, 45% ( $p < 0.001$ ) compared to group 1 patients. relatively few.

We also observed a significant intergroup difference in neurological deficit, which was 27% ( $p < 0.05$ ) more common in group 1 patients than in group 2 patients. we did not observe a difference.

In conclusion, it can be noted that among the complications of arterial hypertension in elderly patients, the uncomplicated type of hypertensive crisis prevailed over the complicated type. Therefore, complicated hypertensive crisis is rare in the general group, but intergroup analysis showed that this complication is more common in group 1 patients, that is, in patients with a history of viral infection. Complications caused by hypertensive crisis showed that patients of group 1 entered the high-risk group, that is, in these patients, ABD, ACS and PE were reliably equal to a large value.

The analysis of the clinical symptoms of the patients also proved that it was more serious in patients with not only arterial hypertension but also viral infection in the medical history.

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