Neo Science Peer Reviewed Journal
Volume 28, December - 2024 ISSN (E): 2949-7701
www.neojournals.com

EPIDEMIOLOGY OF ACUTE SURGICAL DISEASES OF THE ABDOMINAL ORGANS IN THE POPULATION OF UZBEKISTAN, PATIENTS WITH COVID-19

N. S. Mamasoliev
N.S. Khakimov
R. R. Nabiev
O. S. Salokhidinov
Z. N. Mamasoliev
B.U. Usmonov
Andijan State Medical Institute,
Uzbekistan, Andijan, Otabekova, 1
Phone: (0-374) 223-94-60. Email: info@adti

Abstract:

This article discusses information about the study among patients with COVID-19, the spread of acute diseases of the abdominal organs, which were treated in surgical and therapeutic hospitals in the city of Andijan (Andijan branch of the Republican Scientific Center for Emergency and Emergency Care, Andijan regional multidisciplinary hospital, Andijan city central clinic, Andijan regional department of forensic medical examination) and hospitals of the Covid-19 epidemiological centre. Finding a solution to this problem, and identifying clinical and epidemiological markers of the development and prognosis of acute diseases of the abdominal organs can help in developing the basis for the prevention of these diseases.

Keywords:

COVID-19, epidemiology, appendicitis, acute pancreatitis, gastroduodenal bleeding, acute intestinal obstruction, complicated hernia, gastroduodenal perforated ulcer.

Introduction

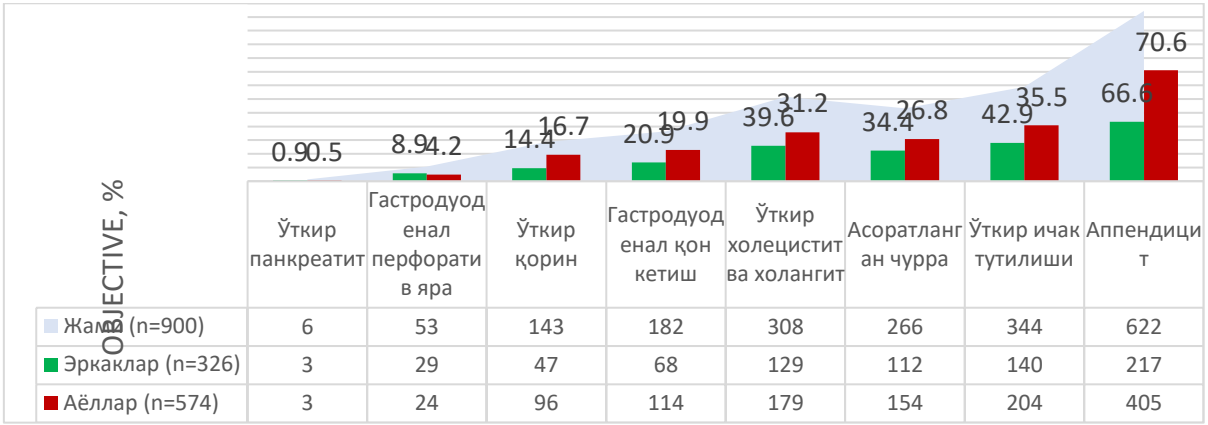
Relevance and necessity of the topic.

The conducted studies show that taking into account the unfavourable epidemiological situation associated with COVID-19 infection, an international registry was created dedicated to "Analysis of the dynamics of comorbid diseases in patients with SARS-COV2 (ACTIV SARS-COV-2) infection". This registry studied the impact of specific risk factors (obesity, smoking, arterial hypertension, old age) and the risk of developing severe and fatal consequences of chronic infectious diseases. As an important and urgent issue, the impact of infection with the SARS-COV2 virus on the future course of infectious pathologies was analyzed [1, p. 30-34; 2, p. 130-36].

Literature sources once again confirm and note that it is necessary to pay increased attention to the importance of a comprehensive clinical and epidemiological study of chronic non-communicable diseases, including acute diseases of the abdominal cavity (ABD), and on this basis to the need to develop models of their regional prevention in the Uzbek population with COVID-19. [3, p. 56-60; 4. p, 3827-3833; 5, 395:507 – 513]: The fact that the study of the potential contribution of coronavirus infection to changes in the structure of diseases, in particular, ABD, has become or remains a separate problem is also mentioned in the studies. Because the COVID-19 pandemic has changed not only the processes of functioning of various healthcare systems but also the processes of functioning of the healthcare system worldwide. In particular, it has had a strong impact on the system of registration and accounting of acute and chronic non-communicable diseases and primary diseases. [6, p. 83; 7, p. 1504-1507; 8, 15(4):377-88; 9, 15(4):377-88; 10 (4):e 220 – e 234]

It would certainly be interesting to systematize and summarize scientific data that shed light on the epidemiology and mechanisms of origin of CBC at the population level, and to draw clear conclusions based on COVID-19. Such studies have not yet been conducted.

Acute surgical diseases of the abdominal cavity (ASD) in the Uzbek population with Covid-19, as shown in Figure 1, are detected with a prevalence rate of 26.7% and are more common in men (28.6%) than in women (25.7%), with a statistically insignificant difference [RR=1.114; 95% CL=0.893-3.189; χ^2 =0.90; r=0.084; P>0.05].



	Ўткир панкреатит	Гастродуоденал перфорация яра	Ўткир қорин	Гастродуоденал қон кетиш	Ўткир холецистит ва холангит	Асоратланган чурра	Ўткир ичак тутилиши	Аппендицит
Жами (n=900)	6	53	143	182	308	266	344	622
Эркаклар (n=326)	3	29	47	68	129	112	140	217
Аёллар (n=574)	3	24	96	114	179	154	204	405

Figure 1. Prevalence of acute abdominal surgical complications (AACs) in the COVID-19 population

Acute abdomen was reported in the Covid-19 population with a prevalence of -14.4% in men and -16.7% in women (P>0.05), and in the overall Covid-19 population with a prevalence of -15.9% [RR=0.860; 95% CL =0.573 -1.222; χ^2 =0.854; r=-0.031; P>0.05]

According to the analysis results, appendicitis was observed with a frequency of -69.1% in the general Covid-19 population [RR=0.943; 95% CL =0.859 -1.036; χ^2 =1.553; r=-0.042; P>0.05]. It is expressed differently in women and men, with prevalence rates of -70.6% and 66.6% (P>0.05). Among the surgical diseases observed in Covid, acute cholecystitis and cholangitis are confirmed with a frequency of 34.2% [RR=1.269; 95% CL =1.059 -1.521; χ^2 =6.495; r=-0.085; P>0.05].

These acute diseases were confirmed in the Covid population with a prevalence rate of -39.6% in men and -31.2% in the female population (P>0.01).

The analysis data confirm that acute pancreatitis is rare in the male and female population studied, with prevalence rates of -0.9% and 0.5%, respectively (P>0.05). In the overall COVID population, the prevalence rate is striking at -0.67% [RR=1.761; 95% CL =0.357 -8.673; χ^2 =0.496; r=-0.023; R>0.05].

The prevalence of gastroduodenal bleeding in the COVID-19 population, as shown in the table and figure in the appendix, is 20.2%. [RR=1.050; 95% CL =0.804 -1.373; χ^2 =0.128; r=-0.012; P>0.05].

The frequency of non-significant differences was observed in men (20.9%) and women (19.9%) (P>0.05).

Another noteworthy finding is that acute intestinal obstruction is detected with high prevalence in women (42.9%) and men (35.5%) in the field of COVID-19 infection (P>0.05). In the total Covid-19 population, mainly in the Uzbek population, the frequency of confirmation of this AE is 38.2% [RR=1.208; 95% CL =1.023 -1.428; χ^2 =4.828; r=-0.073; P>0.05].

The prevalence of complicated hernia in the total COVID-19 population tested is confirmed to be -29.5% [RR=1.281; 95% CL =1.046 -1.567; χ^2 5.657; r=0.079; P>0.05].

A higher frequency of registration was observed in men (34.4%) compared to women (26.8%) [P>0.05].

A similar trend is observed for gastroduodenal perforated ulcers: it is confirmed twice as often in the male population infected with COVID-19 (8.9%) as in women (4.2%) (P>0.01). In the total Uzbek population with COVID-19, the incidence of gastroduodenal perforated ulcer is -5.89% [RR=2.128; 95% CL =1.260 -3.591; χ^2 =8.338; r=-0.096; P>0.05].

Table 1 Acute abdominal surgery in the general population with COVID-19, depending on age the frequency of the spread of diseases

No.	KBAOKHK	New year, new year				Total*		Middle and old age						Total		Σ		RR	95%CI	χ^2	r	P
		18-21 years old		22-44 years old				45-59 years old		60-74 years old		75-89 years old										
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%					
1	Acute abdomen	3	2,1	73	51.0	76	53.1	40	28.0	20	14.0	7	4.9	67	46.9	143	100.0	0.957	0.708-1.293	0.082	-0.010	>0.05
2	Appendicitis	25	4.0	316	50.8	341	54.8	164	26.4	104	16.7	13	2.1	281	45.2	622	100.0	1,020	0.934-1.114	0.195	0.015	>0.05
3	Acute cholecystitis and cholangitis	-	-	20	6.5	20	6, 5	153	49.7	115	37.3	20	6.5	288	93.5	308	100.0	0.058	0.038-0.090	431.9	-0.693	<0.001
4	Acute pancreatitis	-	-	-	-	-	-	-	-	5	83.3	1	16.7	6	100	-	-	-	-	-	-	-
5	Gastroduodenal bleeding	-	-	58	31.9	58	31 .9	75	41.2	40	22.0	9	4.9	124	68.1	182	100.0	0.393	0.296-0.522	46.4	-0.227	<0.001
6	Acute intestinal obstruction	-	-	49	14.2	49	14.2	158	45.9	115	33.4	22	6.4	295	85.8	344	100.0	0.140	0.106-0.183	360.7	-0.633	<0.001
7	Complicated hernia	-	-	19	7.1	19	7.1	127	47.7	102	38.3	18	6.8	247	92.9	266	100.0	0.065	0.041-0.101	338.9	-0.614	<0.001
8	Gastroduodenal perforative ulcer	-	-	24	45. 3	24	45. 3	18	34. 0	10	18. 9	1	1.9	29	54. 7	53	100. 0	0.69 6	0.412-1.176	1,85 9	-0.04 5	>0.05

Note: In this and subsequent tables,

all statistical indicators are based on distinctions between young people (18-44 years old) and middle-aged, old and elderly (45-89 years old);

∑-total population of all ages;

The %-%-percentage indicator is taken about the total population of all ages.

They show that in the young (18-21 years and 22-44 years) population with COVID-19, acute abdominal disease is detected at a frequency of -2.1% and 51.0% (P>0.001), and in the middle-aged and elderly -28.0% (45-59 years), 14.0% (60-74 years) and 4.9% (75-89 years). The highest frequencies are observed in the age group of -22-44 and 45-59 years [RR=0.957; 95% CL =0.708 -1.293; χ^2 =0.082; r=-0.010; P>0.05].

It is confirmed with a frequency of -53.1% in young people and -46.9% in gerontological age (P>0.05).

Appendicitis is noted in young people, in the covid field, with a prevalence of 54.8% (18-21 years -4.0%, 22-44 years -50.8%) and in gerontological age -45.2% (45-59 years -26.4%, 60-74 years -16.7% and 75-89 years -2.1%) [RR = 1.020; 95% CL = 0.934 -1.114; χ^2 = 0.195; r = 0.015; P > 0.05].

Acute cholecystitis and cholangitis are not reported in this 18-21-year-old population; At the age of 22-44 and in general Their prevalence in the young population is -6.5%, and in the gerontological age group it is 93.5% (45-59 years old -49.7%; 60-74 years old -37.3%; 75-89 years old -6.5%) [RR=0.058; 95% CL =0.038 -0.090; χ^2 =431.9; r=-0.693; R<0.001].

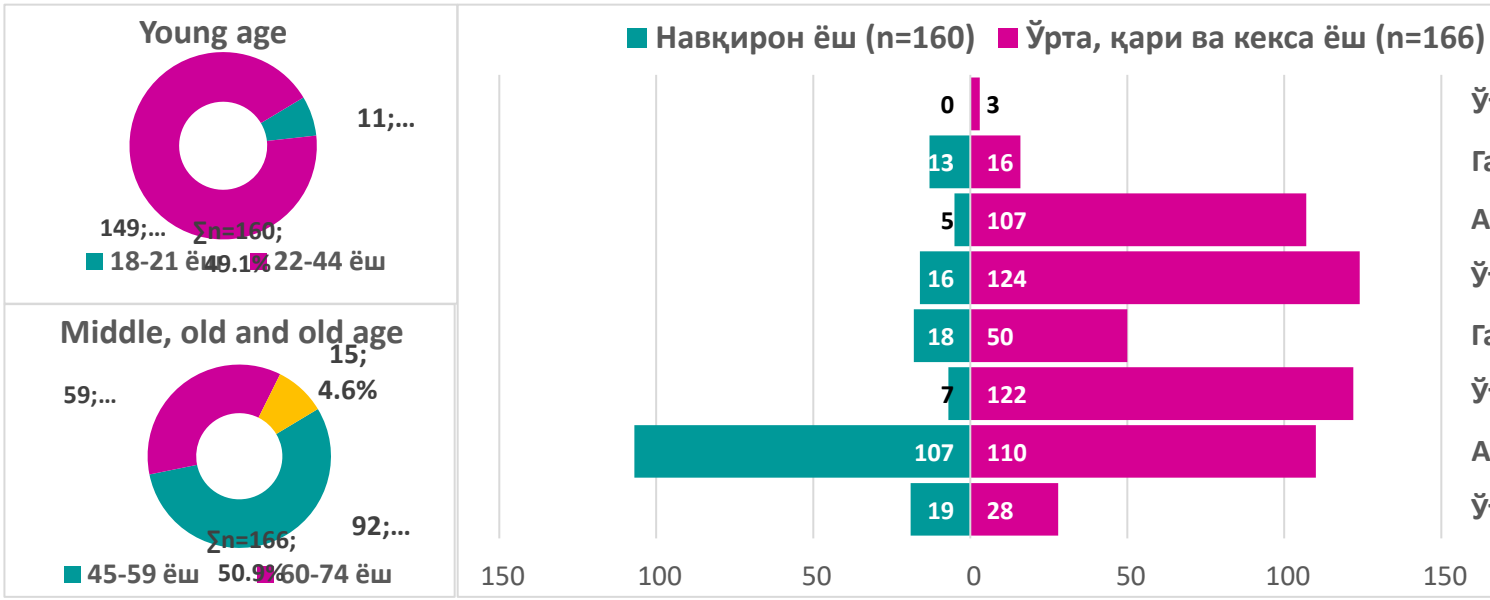
Acute pancreatitis is not detected in the elderly and middle-aged groups of the COVID population (0.0%), in the 60-74-year-old and 75-89-year-old groups -83.3% and 16.7% of the prevalence.

Gastroduodenal bleeding is observed in 31.9% of young people (not observed in those under 21 years of age) and in 45-89 years of age -68.1% (45-59 years -41.2%; 60-74 years -22.0%; 75-89 years -4.9%) [RR = 0.393; 95% CL = 0.296 -0.522; χ^2 = 46.4; r = 0.227; P < 0.001].

The prevalence of acute intestinal obstruction in the examined Covid population aged 18-21 years is confirmed by the corresponding frequency [RR=0.140; 95% CL=0.106-0.183; $\chi 2 = {}^{360.7}$; r=0.633; P>0.001].

Future OBJECTIVES, complicated hernia, are observed with a detection rate of -7.1% in the total young COVID population (not observed until age 21) and -92.9% in those aged 45-89 (-47.7% in 45-59; -38.3% in 60-74 and -6.8% in 75-83) [RR=0.065; 95% CL=0.041-0.101; χ^2 =338.9; r=0.614; P<0.001].

The obtained data confirm that gastroduodenal perforated ulcer is not recorded in the COVID population aged 18-21 years, it is confirmed with a frequency of -45.3% in the 22-44-year-olds and in the young age group in general. It is observed with a frequency of detection of -34.0% in the 45-59-year-olds, -18.9% in the 60-74-year-olds, -1.9% in the 75-89-year-olds and -54.7% in the 45-89-year-olds [RR=0.696; 95% CL =0.412 -1.176; χ^2 =1.859; r=0.045; P>0.05].



2. Prevalence of acute surgical diseases of the abdominal cavity by age in the male population with COVID-19

"Acute abdomen" is noted with a prevalence of -20.2% in young men (-10.0% in 18-21 years and 87.2% in 22-44 years) and -29.8% in 45-89 years (-18.5% in 45-59 years, -11.9% in 60-74 years and -26.7% in 75-89 years) [RR=0.708; 95% CL =0.413 -1.216; χ 2 =1.588; r=0.070; P>0.05].

A relatively high incidence of COVID-associated appendicitis (Cov AAP); acute cholecystitis and cholangitis (Cov AHC), gastroduodenal bleeding (Cov AGD), acute intestinal obstruction (Cov AIT), complicated hernia (Cov AAH), and gastroduodenal perforated ulcer (Cov AGDP) are confirmed at relatively low frequencies in men of different ages.

In particular, it is found that the overall prevalence of COVID-19 in young men is -2.7% (-0.0% in 18-21 years) and -47.3% in 45-89 years (-71.7% in 45-59, -76.3% in 60-74, and -73.3% in 75-89) [RR=0.060; 95% CL=0.029 -0.124; χ^2 =162.8; r=0.707; P<0.001].

Covid-associated acute pancreatitis (CovAP) was recorded only in the elderly (5.1%) and was not observed in young, middle-aged, or elderly people (0.0%).

In the male population, the following age-related prevalence rates of CVD are described: CVD is described as age-related prevalence rates: -13.2% in young adults (18-21 years) -0.0%; 22-44 -12.1%), 45-59 -29.3%, 60-74 -30.5%, 75-89 -33.3% and 45-89 from -36.8% [RR=0.374; 95% CL=0.228 -0.612; χ^2 =17.57; r=0.232; R<0.001].

In the case of COVID-19, the prevalence of HIV infection in young men is -10.7% (not detected in 18-21 years) and -44.3% in 45-89 years (-72.8% in 45-59 years, -76.3% in 60-74 years, -80% in 75-89 years) [RR=0.134; 95% CL=0.083-0.215; χ2 =139.2; r=0.653; P<0.001].

Of CovAAC in the male population is -0.0% in the 18-21 age group, -67.8% in the 22-44 age group, -73.3% in the 75-89 age group, and -47.8% in the 45-89 age group [RR=0.018; 95% CL=0.020-0.116; χ^2=135.9; r=0.646; P<0.001].

The analysis of the COVID-19 Pandemic Response (CVR) revealed that its detection rate was -22.4% in the younger population and -27.6% in those aged 45-89 (-9.8% in 45-59, -11.9% in 60-74, and -0.0% in 75-89) [RR=0.843; 95% CL=0.419-1.696; χ^2=0.230; r=0.027; P>0.05].

2 (appendix) presents the prevalence of acute surgical diseases of the abdominal cavity in the female population with COVID-19, depending on age.

Table 2 Prevalence of acute surgical diseases of the abdominal cavity in the female population with COVID-19, depending on age

No.	KBAOKHK	New year, new year				Total		Middle and old age						Total		Σ		RR	95%CI	χ^2	r	P
		18-21 years old		22-44 years old				45-59 years old		60-74 years old		75-89 years old										
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%					
1	Acute abdomen	2	8.7	55	18.0	57	59.4	23	15.3	13	15.9	3	23.1	39	40.6	96	100.0	1,091	0.752-1.582	0.209	0.019	>0.05
2	Appendicitis	17	73.9	217	70.9	234	57.8	102	68.0	63	76.8	6	46.2	171	42.2	405	100.0	1,019	0.915-1.135	0, 1 1 9	0.014	>0.05
3	Acute cholecystitis and cholangitis	-	-	13	4.2	13	7.3	87	58.0	70	85.4	9	69.2	166	92.7	179	100.0	0.058	0.034-0.100	266.4	-0.707	<0.001
4	Acute pancreatitis	-	-	-	-	-	-	-	-	2	2.4	1	7.7	3	100	-	-	-	-	-	-	-
5	Gastroduodenal bleeding	-	-	40	13.1	40	35.1	48	32.0	22	26.8	4	30.8	74	64.9	114	100.0	0.403	0.284-0.570	28.73	-0.224	<0.001
6	Acute intestinal obstruction	-	-	33	10.8	33	16.2	91	60.7	70	85.4	10	76.9	171	83.8	204	100.0	0.144	0.103-0.201	218.9	-0.653	<0.001
7	Complicated hernia	-	-	14	4.6	14	9.1	71	47.3	62	75.6	7	53.8	140	90.9	154	100.0	0.048	0.020-0.116	200.0	-0.590	<0.001
8	Gastroduodenal perforative ulcer	-	-	11	3.6	11	45.8	9	5.0	3	3.7	1	7.7	13	54.2	24	100.0	0.630	0.287-1.382	1,350	-0.048	>0.05

Covid-associated "Acute Abdominal Pain" (CAAP) is confirmed with a prevalence rate of -59.4% in the young female population (8.7% in 18-21, 18.0% in 22-44) and -40.6% in those over 45 years of age (15.3% in 45-59, 15.9% in 60-74, and 23.1% in 75-89) [RR=1.091; 95% CE=0.752-1.582; £ ^{2}=0.209; Ч=-0.019; P>0.05].

The prevalence of COVID-19 in women aged 18-44 years was -57.8% (-73.9% in 18-21 years, -70.9% in 22-44 years) and -42.2% in the female population aged 45-89 years (-68.0% in 45-59, -76.8% in 60-74, -46.2% in 75-89 years) [RR=1.019; 95% CL=0.915-1.135; $\chi 2 = {}^{0.119}$; r=0.014; P>0.05].

In the female population of different age groups, the following prevalence rates are characterized by age: (18-44 years -7.3% (not detected in 18-21 years), 45-59 years -58.0%, 60-74 years -85.4%, 75-89 years -69.2%, and 45-89 years -92.7% [RR=0.058; 95% CL =0.034 -0.100; χ^2=266.4; r=0.707; P<0.001].

In the female population, COVID-19 is also detected at a low frequency (only in the 60-74 and 75-89 age groups -2.4% and 7.7%, respectively).

The overall prevalence of CVD is -35.1% in women of childbearing age and -64.9% in women aged 45-89 (-32.0% in women aged 45-59, -26.8% in women aged 60-74, and -30.8% in women aged 75-89) [RR=0.403; 95% CL=0.284-0.570; $\chi 2 = {}^{28.73}$; r=0.224; P<0.001].

The epidemiological indicators of COVID-19 in this population are also characteristic. In particular, COVID-19 is recorded at a frequency of -16.2% in young people and is confirmed with a frequency of increase reaching -76.9% in those aged 45 to 89 years (-60.7% in 45-59, -83.4% in 60-74 and -85.4% in 75-89 years). [RR=0.144; 95% CL=0.103-0.201; χ^2 =218.9; r=0.653; P<0.001].

The detection rate of COVID-19 is -9.1% in 18-44-year-olds and -90.9% in 75-89-year-olds (-47.3% in 45-59, -75.6% in 60-74) [RR=0.048; 95% CL=0.020-0.116; χ^2 =200.0; r=0.590; P<0.001].

The prevalence of COVID-19 in the young female population was confirmed by the following indicators: -45.8% in 18-44-year-olds and -7.7% in 45-89 year-olds, -5.0% in 45-59-year-olds, -3.7% in 60-74-year-olds and -7.7% in 75-89-year-olds [RR=0.630; 95% CL0.2871.382; χ^2 =1.350; r=0.048; P>0.05].

Conclusion

Such data on acute surgical diseases of the abdominal organs were obtained for the first time in the Uzbek population in connection with COVID-19 infection, and the results obtained are of practical importance in the early implementation and planning of preventive measures for these diseases, which will significantly reduce or eliminate medical, economic and social losses among the population.

REFERENCES:

1. Временные методические рекомендации: «Болезни органов пищеварения в условиях пандемии новой коронавирусной инфекции (Covid-19). Версия 2 // Профилактическая медицина. -2021.-№5.-С.4-41.
2. Тухтабоев А.А. Каримов А.Х. Тухтабоева Г.М. Разработка специальных диагностических критериев для Covid-2019 ассоциированного миокардита у беременных //Медицинский журнал Узбекистана. 2024 №1.-С.130-136.
3. Щеголев А.И., Туманова У.Н., Мишнев О.Д. Патология седца при сепсисе. Международный журнал прикладных и фундаментальных исследований . 2019; 9:56-60.
4. Akarsu C, Karabulut M, Aydin H, Sahbaz NA, Dural AC, Yegul D, Peker KD, Ferahman S, Bulut S, Donmez T, Asar S, Yasar KK, Adas GT. Association between Acute Pancreatitis and COVID-2019: Could Pancreatitis Be the Missing Piece of the Puzzle about Increased Mortality Rates? J Invest Surg. 2020;1 – 7. Epub ahead of print. PMID:33138658.
5. Chen N, Zhou M, Dong X, et al. Epidemiological and clinical characteristics for 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet. 2020; 395:507 – 513.

6. Gao L., Jiang D., Wen X.S. et al. Prognostic value of Ne – proBNP in patients with severe COVID–19. // Respir Res. – 2020. – 21. – P. 83.
7. Long B., Brady W.J., Koyfman A. Gottlieb. M. Cardiovascular complication in COVID–19. // Am J Emerg Med. – 2020. – 38. – P. 1504 – 1507.
8. Marasco G., Dajti E., Ravaioli F., Brocchi S., Rossini B., Alemanni L.V., et al. Clinical impact of sarcopenia assessment in patients with liver cirrhosis. Expert Rev Gastroenterol Hepatol. 2021;15(4):377-88.
9. Msemburi W, Karlinsky A, Knutson V, et al. The Who estimates of excess
10. Mortality associated with the COVID–19 pandemic. Nature. 2023;613 (7942):130 – 137.
11. Narhi Fi, Moonesinghe RK, Shenkin SD, et al. Implementing corticosteroids in the treatment of COVID–19 in the ISARIC Who Clinical Characterization Protocol UK: prospective, cohort study. The Lancet. Digital Health. 2022:4(4):e 220 – e 234.

