



FEATURES OF THE COURSE OF CLINICAL AND LABORATORY INDICATORS IN PATIENTS WITH AN INTERMEDIATE DEGREE OF COVID-19

Kh.K. Turdiev, Sh.Sh. Yarikulov, F.T.Norov, B.B. Ubaydullaev

Bukhara State Medical Institute

Article history:	Abstract:
Received: 13 th October 2022 Accepted: 13 th November 2022 Published: 22 nd December 2022	<p>Coronaviruses, previously circulating in limited areas, have become the cause of a pandemic in a short time. A prolonged pandemic, as it spread through the human population, changed its characteristics. Coronavirus infection has increasingly become accompanied by lung damage in humans and lead to death.</p> <p>The purpose of the study: to study the features of clinical and laboratory parameters of patients with an average degree of COVID-19</p> <p>The analysis of clinical and laboratory parameters of 102 patients with an average degree of COVID-19 who were treated in the purulent surgical department of the clinical base of the Bukhara State Institute in 2012-2021 was carried out.</p>

Keywords: pleural empyema, lung pyrography, pulse oximetry, multi spiral tomography study.

RELEVANCE

Coronavirus infection caused by the new SARS-CoV-2 beta-coronavirus emerged in China in 2019 and quickly spread around the world, presenting global public health with the most difficult problem of combating a new infectious agent. The SOUGO-19 pandemic has placed an enormous strain on health systems and triggered a global economic crisis around the world.

Currently, the total number of infected people on the planet has exceeded 75 million, more than 1.5 million deaths have been recorded. The situation in Russia remains extremely tense. The number of infected is about 2 million, of which we have lost over 50 thousand of our citizens. In January 2021, the daily increase in cases remained at the level of 20,000 or more [1-3]. According to the National Health Service, 45% of those who recovered from SOUGO-19 after discharge from the hospital have a significantly reduced quality of life and patients need constant medical care and rehabilitation for quite a long time.

A study of SOUGO-19 risk factors based on data from 17 million patients [6] revealed that people over 60 with comorbidities such as diabetes, hypertension, and cardiovascular disease (CVD) are at high risk of critical illness and mortality. Some authors note that with an increase in the number of examined children and young adults, the proportion of patients with asymptomatic and mild course of SOUGO-19 increases [7]. Trying to answer the question of who statistically dies more often from coronavirus, scientists take into account not only age, but also gender. Men get sick and die one and a half times more often than women (2.8 vs. 1.7%, respectively). In South Korea, the statistics were slightly different: women were admitted to hospitals more often, but male patients were more severely ill. Scientists believe that gender differences are due to the peculiarities of the spread of nicotine addiction in the population. Where there are more male smokers, they get sick more often and endure the disease more severely [8].

THE PURPOSE OF THE STUDY: to study the features of clinical and laboratory parameters of patients with an average degree of COVID-19

MATERIAL AND METHODS

The material of the study was 102 patients with COVID-19, of moderate severity, who received treatment at the peak of the pandemic in July-August 2020 in a specialized COVID-19 hospital at the hostel of the Technological Institute in the city of Bukhara.

It should be noted that during this period, 326 patients with COVID-19 received inpatient treatment at the hospital. The treatment method was carried out according to protocol No. 6 on the recommendation approved by the Ministry of Health of the Republic of Uzbekistan for the examination and treatment of COVID - 19 dated 06/30/2020. According to the protocol, patients with COVID - 19, depending on the severity of the disease, are conditionally divided into 3 groups, specific recommendations are given on the scope of the study and treatment, taking into account the severity of the patients.

Of the 326 patients with COVID-19, 102 (31.2%) had moderate lung disease, 224 (68.7%) patients had severe lung disease. This article provides an analysis of the study of patients with moderate lung injury.

Of the 102 examined patients with covid pneumonia, 61 (59.8%) were males and 51 (41.2%) females aged 17 to 85 years. The average age was 52.6±1.8 years.

The main complaints upon admission of patients were - fever (up to 90%); Dry cough or with a small amount of sputum (72.3% of cases); Shortness of breath (28%); Fatigue (47.8%); Feeling of congestion in the chest (20.2%); Sore throat (11.6%); runny nose (57.0%), decreased sense of smell and taste (82.8%); signs of conjunctivitis (22.0%) cases.

All examined patients had complications in the form of pneumonia, which was confirmed by X-ray radiological examination.

Of the 102 patients, in most cases (95.1%), bilateral covid pneumonia was noted with predominant middle (32.8%) and lower (62.3%), (5.8%) patients had unilateral pneumonia, of which right-sided pneumonia (3.7%), (2.1%) patients had left-sided COVID-19 pneumonia.

To accurately establish the diagnosis of COVID - 19, all patients underwent a PCR study from the nasopharynx. It should be noted that 2% of patients at the time of admission had confirmed PCR results on their hands. The rest of all patients from the moment of receipt of PCR, the study was carried out in a hospital. In 45% of patients, according to the results of a PCR study, there was a suspicion of coronavirus, 55% of patients had confirmed PCR tests for coronavirus. Taking into account the presence of clinical signs such as: anosmia, headaches, fever, in the anamnesis, in patients in whom a PCR study showed suspicion of coronavirus, a diagnosis of COVID-19 was made. All of them had a history of contact with patients with COVID-19 during the last 14 days, prior to the admission of patients. 70% of patients in the family had patients with confirmed COVID-19.

All patients from the moment of admission on an emergency basis began conservative treatment according to protocol 6. From the moment of admission, all patients underwent PCR testing for COVID - 19 from the nasopharynx, body temperature, respiratory rate were measured, an objective examination of the lungs (auscultation, percussion), lung spirometry, pulse oximetry were performed, X-ray examination and, if necessary, MSCT of the chest. Taking into account the results of clinical and radiological studies, all examined patients, if necessary, underwent oxygen therapy using the SPAP apparatus or the Bobrov apparatus.

Clinical evaluation of the effectiveness of the treatment of the examined patients was accompanied by the study of laboratory indicators of signs of endogenous intoxication from peripheral blood (hemoglobin concentration, leukocytosis, ESR, LII, LI, MSM), the qualitative composition of the sputum microflora.

RESULTS AND DISCUSSIONS

Analysis of the results of intoxication indicators of the organism of the examined patients revealed the following changes (Table 1). As can be seen from the table, on the first day of treatment, the body temperature of patients averaged 37.80±0.400C. The content of blood leukocytes was equal to an average of 7.82±0.11 x 10⁹/l. Volume c). 0.176±0.008 units Similarly, there was an increase in LII and ESR.

Table 1.
Dynamics of indicators of intoxication in patients with COVID - 19
(n=102)

Indicators	Observation time			
	day of admission	3 days	7 days	14 days
T body	37,80±0,40	37,44±0,14***	36,81±0,12***	36,60±0,21
L blood ×10⁹/L	7,82±0,11	7,10±0,17***	6,70±0,21*	6,60±0,18*
MSM unit	0,176±0,008	0,148±0,04	0,122±0,022**	0,128±0,00 4*
LII unit	1,70±0,10	1,30±0,04	1,0±0,03**	1,0±0,03
SDE	45,60±1,28	41,40±1,21	34,70±2,11*	25,20±2,10 ***

Note: * - the significance of the differences relative to the data of the previous day are significant (* - P<0.05, ** - P<0.01, *** - P<0.001).

On the third day of treatment, there was a slight decrease in body temperature from 37.80±0.40 to 37.44±0.14, the number of blood leukocytes decreased to an average of 7.10±0.17×10⁹/l. The volume of medium molecules averaged 0.148±0.04 units. There was a decrease in LII and ESR to 1.30±0.04 and 41.4±1.21, respectively.

By the seventh day of treatment, patients in the comparison group with purulent lung diseases remained slightly febrile (36.81±0.12 0C). At the same time, for all indicators of intoxication of the body: L, MSM, LII and ESR of the blood, their further decrease was noted, that is, there was a tendency towards normalization - 6.70±0.21 × 10⁹;

0.122±0.022; 1.0±0.03; 34.70±2.11 respectively. By the fourteenth day of treatment, these figures, although they tended to further decrease, remained above the norm.

With further treatment and observation, by the seventh day, all analyzed indicators of intoxication, except for blood ESR, were within the normal range.

In the following, the assessment of the condition of patients was studied in terms of SpO2%. On the day of admission, in patients of the II A subgroup, the SpO2 % was slightly less than normal - 93.60% ± 0.06 (Table 2).

Table 2
Dynamics of pulse oximetry parameters in examined patients with COVID - 19 (n=102)

Patient groups	SpO2 %			
	Day of admission	3 days	7 days	14 days
Control II A	93,60±0,06	93,80±0,11	94,10±0,30	95,20±0,40*

Note: where * is the significance of differences ($p < 0.05$) in the size of the foci of destruction in dynamics according to the terms given in the table.

During treatment, SpO2 tended to normalize at a slow pace. By the third day of treatment, the dynamic growth curve of SpO2 was insignificant. By the 6th-7th day of treatment, there was positive dynamics of the SpO2 index, reaching up to 94.10% ± 0.30, which corresponds to the lower limit of the norm. On average, the increase in the oxygen saturation of tissues in this period reached up to 0.5% of the original. In the future, with a dynamic increase by the 14th day - up to 95.20% ± 0.40, which significantly differs from the initial values by an average of 2.14%.

The average duration of inpatient treatment of subgroup II A was 10±2.3 bed-days.

FINDINGS:

1. Features of clinical and laboratory diagnostic signs of COVID -19 are: the clinical manifestations of COVID -19 do not correspond to the degree of lung damage in severe CT scan with an unexpressed clinic of septic conditions, a relatively mild severity of the general condition. With severe lung damage, the temperature of patients in most cases does not exceed 38.5 C. A pronounced violation of the blood coagulation system prevails than in purulent surgical diseases of the lungs.

2. Clinical, laboratory, immunological and radiological features of the course of COVID - 19 associated pneumonia in clinical practice is important in differentiating patients with purulent surgical inflammatory diseases of the lungs of bacterial etiology. Which inevitably positively affects the quality of treatment of patients with both purulent-surgical lung diseases and COVID-19 associated pneumonia.

BIBLIOGRAPHY

1. Nikiforov V.V., Suranova T.G., Chernobrovkina T.YA., Yankovskaya YA.D., Burova S.V. Novaya koronavirusnaya infektsiya (COVID-19): Kliniko-epidemiologicheskiye aspekty // Arkhiv" vnutrenney meditsiny. 2020. № 2. S. 87-93. DOI: 20544/2226-6704-2020-10-2-87-93.
2. Perlman S. Another Decade, Another Coronavirus. N. Engl. J. Med. 2020. № 8. P. 760-762. DOI: 10.1056/NEJMe2001126.
3. Nurpeysova A.KH., Alimova L.K., Ponezheva ZH.B., Mannanova I.V., Popova K.N., Bikmukhametova A.I., Protsenko D.N., Tyurin I.N., Domkina A.M. Kliniko-laboratornyye osobennosti COVID-19 u lyudey molodogo vozrasta // Lechashchiy Vrach. 2021. №3 (24). S. 45-50. DOI: 10.51793/OS.2021.24.3.009.
4. Lumley S.F., O'Donnell D., Stoesser N.E., Matthews P.C., Howarth A., Hatch S.B., Marsden B.D., Cox S., James T., Warren F., Peck L.J., Ritter T.G., de Toledo Z., Warren L.,
5. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in experiment (In Vitro) Safoev Bakhodir Barnoyevich1, Yarikulov Shukhrat Shokirovich2, Boltayev Timur Shavkatovich3 European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 03, 2020.
6. Safoev B.B., Turdiev Kh.K., Boltaev T.SH., Clinical and Laboratory Features of Covid - 19 Course in Combination with Pneumonia// YEuropean multidisciplinary journal of modern science. – 2022, Vol. 4, 2021, Pages. 622 – 626.
7. Turdiev Khurshid Kobilovich. Diagnostic criteria for covid - 19 combined with pneumonia. European Journal of Interdisciplinary Research and Development, Volume-05 July-2022, ISSN (E): 2720-5746.
8. Turdiev Khurshid Kobilovich, Rakhmatov Shukhrat Sharopovich. Complications After Covid - 19 Combined with Pneumonia. Texas Journal of Medical Science, ISSN NO: 2770-2936.
9. Safoev B.B., Yarikulov SH.SH., Ikromov T.E. Vliyaniye razlichnykh doz ul'trafioletovyy luchey na rezistentnosti patogennyye mikroorganizmy v eksperimente (in vitro). Tibbiyotda yangi kun - Bukhoro, 2020. №4(33) — S. - 129-131. (14.00.00; № 22)

10. Safojev B.B., Yarikulov SH.SH. Podavleniye rezistentnosti mikroflory pod vozdeystviyem rastvora dimetilsulfoksida pri lechenii gnoyno-khirurgicheskikh zabolevaniy myagkikh tkaney // *Biologiya va tibbiyot muammolari - Samarkand*, 2021. - №2 (127). - S. - 125-130. (14.00.00; №19)
11. Yarikulov SH.SH., Khasanov A.K., Mukhammadiyev I.SH., Puti snizheniya rezistentnosti mikroflory k antibiotikam pri lecheniya gnoynyx ran. // *Tibbiyotda yangi kun - Bukhoro*, 2020. -№3(31). – S. 156-160 (14.00.00; № 22)
12. Safojev Bakhodir Barnoyevich, Yarikulov Shukhrat Shokirovich, Boltayev Timur Shavkatovich. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in experiment (In Vitro) *European Journal of Molecular & Clinical Medicine*. Great Britain. 2020, Volume 7, Issue 3, P. 5194-5198 (14.00.00; Scopus)
13. Safoev Baqodir Barnoyevich., Yarikulov Shuxrat Shokirovich. The influence of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in experiment (in vitro) // *Journal NX - A Multidisciplinary Peer Reviewed Journal*. Maharashtra India. - 2021. - Vol 7. - №. 06. - P. 285–290. Impact Factor 7.223.
14. Yarikulov SH.SH. Vliyaniye razlichnykh kontsentratsiy rastvora dimetilsulfoksida na chuvstvitel'nosti k antibiotikam patogennykh mikroorganizmov v eksperimente. *Tibbiyotda yangi kun. Bukhoro*. - №4 – 33 - 2020. – S. 153 – 155.
15. Safojev B.B., Yarikulov SH.SH., Arashev R.R. Metody uluchsheniya mestnogo lecheniya gnoynyx ran s primeneniym ul'trafioletovogo oblucheniya v kombinatsii s mnogokomponentnymi mazyami na vodorastvorimoy osnove // *Innovation in the modern education system: a collection scientific works of the International scientific conference // 25th April, 2021. – Washington, USA: "CESS", 2021. Part 5, Issue 1 – p, P. 558-565.*
16. Safojev B.B., Yarikulov SH.SH., Karshiyev N.R. Application of physical and chemical methods in treatment of purulent diseases of soft tissue *Proceedings of Ingenious Global Thoughts An International Multidisciplinary Scientific Conference Hosted from San Jose, California November 29th, 2020 P. 55-56.*
17. R.R.Arashov, & Sh.Sh.Yarikulov. (2022). Comparative evaluation of the outcome of treatment of patients with cavity liver formation with a simple and complex subdiaphragmal position. *World Bulletin of Public Health*, 13, 55-62. Retrieved from.
18. Radjabov Vohit Bafojevich, & Yarikulov Shukhrat Shokirovich. (2022). Modern approaches to abdominal drainage in diffuse peritonitis. *World Bulletin of Public Health*, 13, 50-54. Retrieved from.
18. R. R.Arashov, & SH. SH. Yarikulov. (2022). Osobennosti khirurgicheskogo lecheniya bol'nykh polostnymi obrazovaniyami pecheny pri slozhnykh vnutripechenochnykh raspolozheniyakh. *European Journal of Interdisciplinary Research and Development*, 6, 30–38. Retrieved from.
19. R. R. Arashov, Sh. Sh. Yarikulov, & B. B. Safoev. (2022). Treatment of patients with cavity liver formation with a simple and complex subdiaphragmal position. *Galaxy International Interdisciplinary Research Journal*, 10(8), 65–74. Retrieved from.
20. Sharopova M. S., Safojev B. B., & Yarikulov SH. SH. (2022). Osobennosti kliniko-laboratornogo techeniya gnoynyx ran v sochetannom fone sakharnogo diabeta i diffuznogo toksicheskogo zoba. *Galaxy International Interdisciplinary Research Journal*, 10(8), 75–87. Retrieved from
21. Safoev Baqodir Barnoyevich, & Yarikulov Shuxrat Shokirovich. (2021). The influence of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in experiment (in vitro). *JournalNX - A Multidisciplinary Peer Reviewed Journal*, 7(06), 285–290.