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FEATURES OF CLINICAL ANDLABORATORY INDICATORS OF PATIENTS WITH PLEURAL EMPYEMA AGAINST THE BACKGROUND OF COMPLEX TREATMENT

B. B. Safoev,
Bukhara State Medical Institute

H. K. Turdiev,
Bukhara State Medical Institute

B. B. Ubaidulloev,
Bukhara State Medical Institute

Sh. Sh. Yarikulov
Bukhara State Medical Institute

Resume
Timely diagnosis and properly selected, differentiated, taking into account the stages of treatment of pleural empyema can reduce the patient's stay in the hospital. The purpose of the study: to study thepeculiarity of clinical and laboratory indicators for pleural empyema.
The data of examination and treatment of 36 patients with pleural empyema of various etiologies who were treated in the purulent surgical department of the clinical base of the Bukhara State Institute in 2012-2021 were analyzed. All indicators of intoxication with pleural empyema on the day of admission has a significant deviation from the norm and in the process of traditional treatment is normalized 12-14 days.

Keywords: pleural empyema, pulmonary spirography, pulse oximetry, X-ray examination.

Topicality
Pleural empyema is a frequent and dangerous complication of inflammatory lung diseases, chest injuries and surgical interventions on the organs of the chest cavity. The relevance of the problem is dictated by an increase in the frequency of pathological conditions, the course of which complicates the empyema of the pleura. Over the past decade, there has been a steady increase in the incidence of acute pneumonia, which in 4% of cases is complicated by the development of pleural empyema. In the structure of wounds and injuries, the proportion of chest wounds remains high and is 6 - 12%.
The available publications do not cover the problem of rational choice of the drug for starting therapy for pleural empyema. In recent years, the problem of local monitoring of pathogens of nosocomial infections has become particularly relevant. However, with pleural empyema, this problem has not been properly reflected. In this regard, the main problem is early etiological diagnosis and rational choice of antibacterial drugs.
Timely diagnosis and properly selected, differentiated, taking into account the stages of treatment of pleural empyema can reduce the patient's stay in the hospital, minimize the volume and risk of surgical intervention, reduce the duration of temporary disability, prevent disability and disability of the patient

The purpose of the study: to studythe peculiarity of clinical and laboratory indicators for pleural empyema.

Material and Methods

The data of examination and treatment of 36 patients with pleural empyema of various etiologies who were treated in the purulent surgical department of the clinical base of the Bukhara State Institute in 2012-2021 were analyzed.

All patients were distributed by sex and age according to the classification of age groups adopted at the regional seminar of the World Health Organization in Kiev in 1963. Of these, 21 (58.3%) men and 15 (41.7%) women aged 17 to 76 years (average age was 48.42.1 ±years).

All 36 patients with pleural empyema examined were admitted to the clinic with complicated severe pneumonia without COVID - 19.Of these, 22 (61.1%) were patients with purulent inflammatory lung disease (unformed lung abscess) complicated by pleural empyema, 11 (48.9%) - patients were with pneumonia complicated by exudative pleurisy. The general criterion for diagnosing pneumonia were:

- Acute onset of the disease with fever
- Cough, phlegm
- Shortening of percussive sound, local auscultatory signs, etc. physical signs
- Leukocytosis (leukopenia) with neutrophilic shift
- A new infiltrate in the lung tissue of the transgenological study

Results and Discussions

Of the 36 patients, 21 (58.3%) patients had right-sided localization of pleural empyema, 15 (41.7%) patients had left-sided localization.

All patients on the day of admission on an emergency basis began conservative empirical antibiotic therapy with the subsequent change of antibiotics, taking into account the results of sowing purulent contents and taking into account the sensitivity of microflora. From the moment of admission, all patients were measured body temperature, respiratory rate, an objective study of the lung (auscultation, percussion), pulmonary spirography, pulse oximetry, X-ray examination and, if necessary, chest MSCT. Taking into account the results of the clinic-X-ray radiological studies, all patients were drained of the pleural cavity in order to empty the exudate.

The effectiveness of the manipulation was assessed by the dynamics of the results by X-ray radiological and clinical-laboratory studies. All patients on the day of admission and in dynamics studied the indicatorof intoxication. That in the future, based on the set goal and study, the dynamics of intoxication indicators was comparatively analyzed.

The effectiveness of the used and proposed clinical methods of treating suppurative lung diseases was assessed by the duration of bronchopulmonary symptoms, general symptoms of intoxication, the dynamics of X-ray radiological symptoms of the lungs and pleura, the size of the total bed day.

Clinical evaluation of the effectiveness of treatment of patients with suppurative lung diseases 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 microflora of sputum. At the time of admission and in the process of treatment, the condition of patients was assessed by clinical signs, according to laboratory and instrumental methods of examination, as well as using X-ray methods of research.

Analysis of the results of indicators of intoxication of the body of patients with pleural empyema 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 38,900,08±^{0}C. The content of leukocytes of blood was equal to an average of 9,700.06 x 10±^{9} / l. Volume c). 0.192±0.005 units Similarly, there was an increase in LII and ESR.

Table 1.
Dynamics of intoxication rates in patients with pleural empyema (n = 36)

Indicators	Observation time				
	day of admission	Day 3	Day 7	Day 14	Day 20
t^0 тела	38,900,08±	38,260,04± ***	38,020,11± ***	37,600,11***±	36,400,03± ***
L крови ×10^9/l	9,700,06±	8,400,19± ***	7,600,24*±	7,100,22*±	6,800,26±
MSM units	0,1920,05±	0,1780,02±	0,1610,004±	0,1280,04**±	0,1140,005±*
LII units	2,100,10±	2,000,06±	1,700,03**±	1,560,05***±	1,340,03± ***
ESR mm/h	46,801,86±	42,601,33±	35,902,01*±	26,56±0,82***	17,700,82***±

Примечание: * - достоверность различия относительно данных предыдущих суток значимы (* - P<0.05, ** - P<0.01, *** - P<0.001).

On the third day of treatment, there was a slight decrease in body temperature from 38,900.08 to 38,260,04, the number of blood leukocytes decreased to an average of±±± 8,400×19×10 9 / L. The volume of average molecules averaged 0.178±0.02 units.±±

By the seventh day of treatment, patients of the comparison group with purulent lung diseases retained a slight febrile (38,020,11 ±^{0}C). At the same time, for all indicators of intoxication of the body: L, MSM, LII and ESR of blood, their further decrease was noted, that is, there was a tendency to normalization - 7,600,24×10±^{9}; 0,1610,004; 1,700,03; 35,902,01, respectively. By the fourteenth day of treatment, these figures, although they tended to further decrease, however, they remained above normal.±±±

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

In thelowest grade,the compityofpatients was studied for An $SpO_{of\,2}$%. On the day of admission of the examined patients, the SpO_2% was slightly less than normal - 94.20% ±0.08 (Table 2).

Table 2 Resource requirements by component
Dynamics of pulse oximetry indicators

Index	Динамика SpO_2 %				
	Day of admission	3 overnights	7 overnights	14 overnights	20 overnights
SpO_2 %	94,20±0,07	94,30±0,60	94,70±0,50	95,10±0,30*	98,30±0,76*

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

In the process of treatment, the SpO_2 indicator tended to normalize at a slow pace. By the thirdday of treatment, the dynamic growth curveof the SpO_2 indicator was insignificant. Starting from the 6-7 days of treatment, there was a positive dynamics of the SpO_2 indicator, reaching up to 94.70% ±0.50, on average, the increase in the oxygen saturation of tissues reached up to 0.7% of the initial one, in the future with a dynamic increase by the 20th day - up to 98.30% ± 0.76, which is significantly different from the initial indicators by an average of 4.0%. The average duration of inpatient treatment was 19±2.3 bed days.

To assess the nature and degree of infection of the purulent process, the level of microbial contamination was determined, the species composition of microflora from the exudate of the pleural cavity was determined. Studies of the species composition of microflora sown from the exudate of the pleural cavity revealed the following: in most cases, out of 36 patients, pathogenic staphylococci (Staphylococcus aureus) were sown in 21 (58.3%) patients, of which 8 (22.2%) in the form of a monoculture, and in 8 (36.1%) in associations. In 9 (25.0%) observations, Pneumococcus was sown, in 3 (8.3%) observations, E. coli was sown. The next most detectable frequency was Proteus - 1 (2.7%) of observations.

Findings

1. When assessing the general condition of patients with pleural empyema, the indicators of intoxication of the body t^0 body, L $\times 10^9$ / l of blood, MSM unit, LII unit, ESR mm / h is an objective criterion.
2. All indicators of intoxication in pleural empyema on the day of admission has a significant deviation from the norm and in the process of traditional treatment is normalized 12-14 days.
3. Indicators of saturation of SpO_2 arterial blood is also one of the main criteria for assessing the severity of the condition on the day of admission and in dynamics.

References

1. Abdukarimova E. E. Oxidative stress with purulent-destructive diseases of the lungs and pleura // Vestnik Novgorodskogo gosudarstvennogo universiteta imeni Yaroslava Mudrogo. – 2018. – №. 5 (111).
2. Abdukarimova E. E. Sovremennye aspekty v treatment gnostinno-destructive'nykh morizovykh lung i pleura // Vestnik Kyrgyzkogo-Rossiiskogo Slavyanskogo universiteta. – 2013. – T. 13. – №. 11. – S. 11-13.
3. Bashilov N.I., Barinov O.V., Kotiv B.N. Experience in the treatment of purulent-destructive diseases of the lungs and pleura, accumulated in the military medical Academy named after S. M. Kirov // Infections in surgery. 2014. T. 12. No. 3.- P. 29.
4. Beloglazov V.A., Yatskov A.A., Useinova R.Kh. Expression and polymorphism of tlr4 receptors in the pathogenesis of chronic obstructive pulmonary disease: modern view // Medical immunology. 2021. T. 23. № 2. -S. 231-236.
5. Bykov V. P. et al. Development of the main scientific provisions of the Voyno-Yasenetsky VF on surgical treatment of purulent diseases of the lungs and pleura in modern conditions // Dear brothers and sisters!. – 2012. p. 77.
6. Porkulevich N. I., Sagalbaeva G. Zh. Valve bronchoblockation in the complex treatment of patients with tuberculosis of respiratory organs // Vestnik molodogo uchennogo. – 2015. – T. 8. – №. 1. – S. 16-21.

7. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in experiment (In Vitro) Safoyev Bakhodir Barnoyevich1, Yarikulov Shukhrat Shokirovich2, Boltayev Timur Shavkatovich3 European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 03, 2020.
8. Safoev B.B., Turdiev Kh.K., Boltaev T.SH., Clinical and Laboratory Features of Covid - 19 Course in Combination with Pneumonia// European multidisciplinary journal of modern science. – 2022, Vol. 4, 2021, Pages. 622 – 626.
9. Rakhimov A.Ya. The Effectiveness of Traditional the Method of Amputation and Treatment at the Lower Leg Level of Patients with Diabetic Foot Syndrome with Critical Lower Limb IschemiaEuropean Journal of Life Safety and Stability (EJLSS) ISSN2660-9630 Volume 19, July-2022
10. Rakhimov A.Ya.the modified myoplastic methods of amputation of the crus at critical ischemia of the lower extremity at patients with the diabetes mellitus (dm). New Day in Medicine. (NDM).2020-№1 (29). P. 337-341.
11. 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.
12. Turdiev Khurshid Kobilovich, Rakhmatov Shukhrat Sharopovich. Complications After Covid - 19 Combined with Pneumonia. Texas Journal of Medical Science, ISSN NO: 2770-2936.
13. Safoev B.B., Yarikulov Sh.Sh., Ikromov T.E. The effect of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in the experiment (in vitro). Tibbiyotda yangi kun - Bukhoro, 2020. No4(33) –– S. – 129-131. (14.00.00; № 22)
14. Safoev B.B., Yarikulov Sh.Sh. Suppression of microflora resistance under the influence of dimethyl sulfoxide solution in the treatment of purulent-surgical diseases of soft tissues // Biology va tibbiyot muammolari - Samarkand, 2021. - No. 2 (127). - P. - 125-130. (14.00.00; №19)
15. Yarikulov Sh.Sh., Khasanov A.K., Mukhammadiev I.Sh., Ways to reduce the resistance of microflora to antibiotics in the treatment of purulent wounds. Tibbiyotda yangi kun - Bukhoro, 2020. - No3(31). – P. 156-160 (14.00.00; No 22)
16. Safoyev 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)
17. 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.
18. Yarikulov Sh.Sh. Influence of different concentrations of dimethyl sulfoxide solution on the sensitivity to antibiotics of pathogenic microorganisms in the experiment. Tibbiyotda yangi kun. Buchoro. - №4 – 33 - 2020. – P. 153 – 155.
19. Сафоев Б.Б., Ярикулов Ш.Ш., Арашев Р.Р. Методы улучшения местного лечения гнойных ран с применением ультрафиолетового облучения в комбинации с многокомпонентными мазями на водорастворимой основе // 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.

20. Сафоев Б. Б., Ярикулов Ш. Ш., Каршиев Н. Р. 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.
21. 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 subdiagphragmal position. World Bulletin of Public Health, 13, 55-62. Retrieved from.
22. Radjabov Vohit Bafoyevich, & Yarikulov Shukhrat Shokirovich. (2022). Modern approaches to abdominal drainage in diffuse peritonitis. World Bulletin of Public Health, 13, 50-54. Retrieved from.
23. Р. Р.Арашов, & Ш. Ш. Ярикулов. (2022). Особенности хирургического лечения больных полостными образованиями печены при сложных внутрипеченочных расположениях. European Journal of Interdisciplinary Research and Development, 6, 30–38. Retrieved from.
24. R. R. Arashov, Sh. Sh. Yarikulov, & B. B. Safoev. (2022). Treatment of patients with cavity liver formation with a simple and complex subdiagphragmal position. Galaxy International Interdisciplinary Research Journal, 10(8), 65–74. Retrieved from.
25. Sharopova M. S., Safoev B. B., & Yarikulov Sh. Sh. (2022). Features of the clinical and laboratory course of purulent wounds in the combined background of diabetes mellitus and diffuse toxic goiter. Galaxy International Interdisciplinary Research Journal, 10(8), 75–87. Retrieved from
26. 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.