ISSN 2181-3388
ujcr.uz
eISSN 2181-3876

2024. Том 4. №3

UZBEK JOURNAL OF CASE REPORTS

НАУЧНО-ТЕОРЕТИЧЕСКИЙ И ПРАКТИЧЕСКИЙ ЖУРНАЛ

МИРОВЫЕ НОВОСТИ

Дифференцированный подход при хирургическом лечении тяжелого острого панкреатита с прогнозированием результатов лечения

МИРОВЫЕ НОВОСТИ

Оценка клинических и лабораторных синдромов у гребцов на байдарках и каноэ

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Содержание

Contents

Uzbek journal of case reports. 2024. T.4, №3

https://doi.org/10.55620/ujcr.4.3.2024.5

Severe case of community-acquired pneumonia complicated by acute respiratory distress syndrome and sepsis

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Abstract. Acute pneumonia remains a significant global health concern, causing substantial morbidity and mortality. The social component of this problem is that it occurs in childhood and adulthood more and more often. Although this problem has been fairly well studied, there are still a number of questions that need to be answered. In modern literature, there is the concept of atypical pneumonia, which is interpreted differently by different authors and communities. Some authors affirm that this is pneumonia caused by a certain group of pathogens, while others claim that this is a form of pneumonia that is atypically manifested during radiation studies. In addition, there are conclusions that atypical pneumonia is a fast-acting form of pneumonia, leading to organ failure in a short period of time, so to speak, a fulminant form. In this article, we present a clinical case of a young patient without risk factors, in whom signs of community-acquired pneumonia developed within 12 hours before admission to the hospital emergency room and within 24 hours led to sepsis and multiple organ failure. At the time of admission, the patient was diagnosed with acute heart failure, which led primarily to misconception. Hemodynamic instability in this case did not allow routine computed tomography of the chest to be performed to exclude pulmonary pathology. After this observation, we are more inclined to designate the fast-moving form as atypical pneumonia. Such cases are not often encountered in the daily practice of doctors and, unfortunately, comprehensive methods of diagnosis and treatment have not been fully developed.

Key words: atypical pneumonia, fulminant pneumonia, atypical community-acquired pneumonia, community-acquired pneumonia.

For citation: Usmanov BZh. Severe case of community-acquired pneumonia complicated by acute respiratory distress syndrome and sepsis. Uzbek journal of case reports. 2024; 4(3):22-24. https://doi.org/10.55620/ujcr.4.3.2024.5

Тяжелый случай внебольничной пневмонии, осложненный острым респираторным дистресс-синдромом и сепсисом

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Аннотация. Пневмония была и остается глобальной проблемой с высокой частотой заболеваемости и смертности среди населения. Социальная составляющая данной проблемы является то, что она встречается в детском и зрелом, работоспособном, возрасте все чаще и чаще. Данная проблема хоть и является достаточно хорошо изученной, однако остаются ряд вопросов, на которые следует ответить. В современной литературе существует понятие атипичная пневмония, которую различные авторы и сообщества толкуют по-разному. Одни авторы считают, что это пневмония, вызванная определенной группой возбудителей, другие – это атипично проявляющаяся при лучевых исследованиях форма течения пневмонии. Кроме того, имеются выводы что атипичная пневмония — это быстротекущая форма пневмонии, за короткий промежуток времени приводящая к органной недостаточности, так сказать молниеносная форма. В данной статье мы приводим клинический случай молодого пациента без факторов риска, у которого признаки внебольничной пневмонии развились в течение 12 часов до момента поступления в приемный покой госпиталя и за 24 часа привели к сепсису и полиорганной недостаточности. В момент поступления у пациента превалировала клиника острой сердечной недостаточности, что привело первично к заблуждению. Нестабильность гемодинамики в данном случае не позволило выполнить рутинно компьютерную томографию груди с целью исключить патологию легких. После данного наблюдения мы больше склонны к тому, чтобы обозначать атипичной пневмонией именно быстротекущую форму. Подобные случаи в ежедневной практике врачей встречаются не часто и, к сожалению, всеобъемлющие методы диагностики и лечения до конца не разработаны.

Ключевые слова: атипичная пневмония, молниеносная пневмония, атипичная внебольничная пневмония, внебольничная пневмония.

Для цитирования: Усманов Б.Ж. Тяжелый случай внебольничной пневмонии, осложненный острым респираторным дистресс-синдромом и сепсисом. Uzbek journal of case reports. 2024; 4(3): 22-24. https://doi.org/10.55620/ujcr.4.3.2024.5

INTRODUCTION

Community-acquired pneumonia (CAP) is the leading cause of disease-related death in the World [1]. The global burden of pneumonia is substantial, with vulnerable populations such as infants, elderly individuals, and immunocompromised patients at higher risk. While advances in healthcare have improved outcomes, pneumonia remains a leading cause of hospitalization and mortality worldwide. This article provides an overview of a clinical case of community-acquired pneumonia in an adult, which lasted for one day and was complicated by bilateral pleural effusion, acute respiratory distress syndrome and sepsis.

CASE REPORT

A 23 y.o. male admitted to the hospital in ambulance with breathlessness, headache, pain in chest and epigastrium, unconsciousness. According to the medical history and accompanying persons, twelve hours ago the patient felt a headache, chest pain and shortness of breath. Objectively in admission to the hospital the patient did not answer questions due to stanned state of consciousness, the skin had a bluish marble color, the patient was breathing through wide-open mouth, like catch the air, respiratory rate – 35, SpO2 at room air was 40%, body temperature – 390C, blood pressure (BP) – 70/40 mm Hg, pulse 140-150 per minute, abdomen wall was swollen, soft, there was no diuresis via the urinary catheter. Oxygen was supplied through a mask, blood count and biochemical blood analyses, electrocardiogram (ECG), ultrasonography pleural cavities and abdomen was performed. On blood laboratory tests white blood cells was 37 700 per mm3, blood urea nitrogen – 17,7 mmol/l, creatinine – 182 micromoles/l, glucose level 20 mmol/l, on ECG tachycardia, on an ultrasonography found bilateral pleural effusion and no abdomen pathology. Nasogastric tube inserted and about 4000 ml of intestinal contents was obtained. After 10 minutes of admission heart failure occurred. Cardiopulmonal resuscitation (CPR) was carried out, trachea intubated, the patient was transferred to artificial lung ventilation (ALV) on SIMV FiO2 100% regimen. In chest auscultation no breath was heard and after that a decision was made by the diagnostic puncture of the pleural cavity in both sides, liquid like lysed hemorrhagic was obtained and which was aimed to the cellular contents

studying. Chest tube was carried out 1800 ml from left and 2100 ml from right pleural cavity of exudative liquid was evacuated. Chest Xray revealed multifocal infiltration of the lung fields. However, despite the adequate respiratory support and evacuation of pleural effusion no breath sound was heard on chest auscultation. Diagnostic bronchoscopy was performed and obstruction of main left and right bronchi with purulent sputum was detected, the tracheobronchial tree was sanitized. The patient underwent vasopression, detoxification, infusion, ventilation therapy and antibiotic therapy in empiric regiment. During therapy ALV in VC-SIMV regimen Pinsp-14 mbar, f-14/min, PEEP- 5 mbar, FiO2-100%, SpO2 was 80%, BP – 80/40 mmHg, no urine per catheter. After 8 hours of intensive care clinical death occurred, despite performed CPR, biological death was declared. Post-mortem diagnosis community acquired pneumonia, sepsis, acute respiratory distress syndrome, syndrome of polyorganic failure, intestinal paralysis, bilateral exudative pleuritis was made, which was confirmed at autopsy.

DISCUSSION

In the population-based study researchers conclude annual incidence of unique adult patients hospitalized with pneumonia in the city of Louisville is 634 (95% CI, 613.6–654.4) per 100 000 adults and age-adjusted estimated number of patients hospitalized with CAP in the United States was 1 591 825 adults per year [2]. The risk of morbidity and hospitalization for community-acquired pneumonia increases in persons older age and presence of comorbid conditions [2, 3]. Pneumonia undoubtedly remains a leading cause of morbidity and mortality worldwide.

According to the study Global Burden of Disease, mortality due to lower respiratory infections was in third place [4]. Mortality rate rises to 40% in hospitalization CAP cases in intensive care unit [5]. In the same level mortality frequency in cases of comorbidity, immunosuppression and increasing age [6]. Early mortality risk factors associated with interleukin-6 and tumor necrosis factor alpha [7]. Most of early mortality causes are acute respiratory failure (66,6%) and septic shock/multiorgan failure (24,6%) [8].

In our case we can see CAP with atypical manifestation and fulminant course of the disease. Some authors believe that the term “atypical pneumonia” is outdated [9]. And others argue that the atypical pneumonia characterized by mild symptoms and scant sputum production, with progression to an illness of varying severity, extrapulmonary involvement and no response to penicillin therapy [10]. American Thoracic Society uses the term atypical pneumonia when identifying three pathogens: C pneumoniae, M pneumonia, and Legionella spp. [11]. However, as research shows, the causative agent of such a terrible condition can be a wide range of pathogens, both microbes and viruses [12]. It should also be noted that the term was used in radiology to designate unusual changes on chest radiographs, for which it is difficult to determine the etiological factor (bacterial or fungal) [12]. As you can see, the term for denoting a fast-acting form of pneumonia is still controversial, as is early diagnosis, which would allow adequate treatment for such patients.

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Received 28.06.2024; reviewed 05.09.2024; accepted for publication 23.09.2024.

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Authors’ contribution: Usmanov BZh — study concept, data collection, manuscript writing.

Funding: The work had no specific funding.
Conflict of interest: The authors declare no explicit and potential conflicts of interest associated with the publication of this article.

Статья поступила 28.06.2024; одобрена после рецензирования 05.09.2024; принята к публикации 23.09.2024.

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Вклад авторов: Усманов Б.Ж. — концепция исследования, сбор данных, написание текста рукописи.

Источники финансирования: Работа не имела специального финансирования.
Конфликт интересов: Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.