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CLINICAL PHARMACOLOGY APPROACH TO THE RATIONAL USE OF ANTIBIOTICS IN CHILDREN

Resume: Antibacterial drugs belong to medicines, the effectiveness of which, if chosen correctly, is the most obvious. The appearance of antibiotics in medical practice has led to a decrease in mortality in the most severe and widespread infectious diseases.

The variety of clinical manifestations of sepsis, combined with the lack of certainty of the concept itself, has led to its broad terminological interpretation.

The article gives a modern definition of sepsis, discusses the etiology and pathogenesis, describes the varieties of this clinical condition, describes the algorithm of actions of medical personnel when a patient is admitted with suspected severe sepsis and septic shock.

The article is intended for doctors of intensive care units, surgeons, anesthesiologists.

Keywords: sepsis, antibiotic resistance, pathogen, optimization.

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КЛИНИЧЕСКАЯ ФАРМАКОЛОГИЯ ПОДХОД К РАЦИОНАЛЬНОМУ ПРИМЕНЕНИЮ АНТИБИОТИКОВ У ДЕТЕЙ

Резюме: Антибактериальные препараты относятся к лекарственным средствам, эффективность которых при правильном выборе является наиболее очевидной. Появление антибиотиков в медицинской практике привело к уменьшению летальности при наиболее тяжелых и широко распространенных инфекционных заболеваниях.

Многообразие клинических проявлений сепсиса в сочетании с недостаточной определённостью самого понятия привело к его широкой терминологической трактовке.

В статье дано современное определение сепсиса, рассмотрены вопросы этиологии и патогенеза, описаны разновидности этого клинического состояния, изложен алгоритм действий медицинского персонала при поступлении больного с подозрением на тяжелый сепсис и септический шок.

В статье предназначено для врачей отделений интенсивной терапии, хирургов, анестезиологов.

Ключевая слова: сепсис, антибиотикорезистентность, возбудитель, оптимизация.

Relevance. About 30 million people suffer from sepsis every year in the world, and 8 million patients die from it [6,8]. Most studies on sepsis are mainly devoted to specific issues of diagnosis and treatment or conducted on specific groups of patients [6-9], while there are few works on microbiology and they require regular updating [1,5]. In 2020, mortality from antibiotic-resistant bacteria increased by 15% in the United States [2,7].

Prolonged hospitalizations during the COVID-19 pandemic allowed bacteria to develop resistance to new drugs [3,5]. It was found that in the first year of the COVID-19 pandemic, 29,400 people died from antimicrobial-resistant infections, in 40% of cases it was a hospital infection [1,4]. In this connection, it became necessary to conduct a study with an emphasis on the microbiological properties of sepsis pathogens.

The purpose of the study. The aim of the study was to optimize the diagnosis and treatment of sepsis based on the study of bacteriologically verified cases with the determination of the main sources, etiological structure and resistance of pathogens to antibacterial therapy.

Materials and methods of research. 256 case histories of sepsis patients with positive hemoculture who were treated at the ASMI clinic in 2022-2023 were studied. A retrospective assessment of the medical histories of patients with positive blood culture was carried out, regardless of the timing of the appearance of bacteremia from the moment of hospitalization.

The results of the study. Respiratory infections were the most frequent source of sepsis, which were observed in 28% of patients. Pneumonia prevailed among this group of infections (96%). Abdominal infections were the source of sepsis in 20% of patients: peritonitis (68%), abscesses of internal organs (16%), purulent cholecystitis (16%). Skin and soft tissues were the source of infection in sepsis patients in 17% of cases (bedsores (73%), suppurated postoperative wounds (11%), spondylitis (8%), gonitis (8%)). The heart and large vessels were the source of bacteremia in 13% of cases due to the presence of bacterial endocarditis (66%) and vascular infections (34%). Urinary and reproductive organs were the source of infection in sepsis patients in 10% of cases (pyelonephritis (77%), metroendometritis (18%), salpingo-ophoritis (5%)). The most rare sources of bacteremia in our study were the central nervous system (CNS) (7%) and ENT organs (5%). The source of infection in the central nervous system was more often purulent meningoecephalitis (60%), which developed against the background of the underlying disease or after acute traumatic brain injury, less often brain abscesses (27%) and epiduritis (13%).

The main etiological agents of bacteremia in sepsis patients with different sources of infection are analyzed. All patients with sepsis at the stage of inclusion in the study were in the intensive care unit. At the same time, some of them were connected to a ventilator, others had central or peripheral catheters.

Probably, a large percentage of coagulase-negative staphylococci (CoNS) isolated from the blood of patients with different sources of infection is due to the high degree of colonization of environmental objects. During the study, no statistically significant difference was obtained between groups of patients with different sources of infection, depending on the number of CoNS that caused bacteremia (p < 0.03).

Conclusion. As a result of the study, it was found that more than half of the sources of infection in patients with sepsis are associated with the respiratory organs and the abdominal cavity. At the same time, the main pathogens turned out to be staphylococci, enterobacteria, which dictates the need to include antibiotics, primarily active against this flora, in the initial treatment regimens. The studied gram—positive hemocultures showed high sensitivity to vancomycin and linezolid, enterobacteria - to carbapenems and cefepime. When deciding on the appointment of anti-bacterial therapy for infections caused by non-fermenting bacteria, it may be recommended to make an individual decision in each individual case, based on microbiological research data.

LIST OF LITERATURE:

1. Белобородов В.Б. Диагностика и антимикробная терапия инфекций, вызванных полирезистентными штаммами микроорганизмов (обновление 2022 г.) // Вестник анестезиологии и реаниматологии. 2022. № 2(19). С. 84-114.

2. Гринев М.В., Громов М.И., Комраков В.Е. Хирургический сепсис. СПб.- М., 2001. 315 с.

3. Котив Б.Н., Гумилевский Б.Ю., Колосовская Е.Н., Кафтырева Л.А., Орлова Е.С., Иванов Ф.В., Соловьев А.И. Характеристика этиологической структуры инфекции, связанной с оказанием медицинской помощи в многопрофильном стационаре // Вестник Российской Военно-медицинской академии. 2020. № 1(69). С. 7-11.

4. Сиволодский Е.П., Зуева Е.В. Таксономическое и прикладное значение профилей утилизации белковых аминокислот бактерий Acinetobacter baumannii, Acinetobacter pittii, Acinetobacter nosocomialis // Вестник Российской Военно-медицинской академии. 2018. № 4(64). С. 113-116.

5.Чирский В.С., Юзвинкевич А.К., Андреева Е.А. Особенности патологоанатомической диагностики грамотрицательного и грамположительного сепсиса // Вестник Российской Военно-медицинской академии. 2019. № 4(68). С. 17-21.

6. Юркин А.К. Наиболее вероятные причины летального исхода при различных неотложных состояниях у иммунокомпрометированных больных гемобластозами, осложненными сепсисом после проведения полихимиотерапии // Вестник Российской Военно-медицинской академии. 2019. № 1(65). С. 84-90.

7. Mishra M. Death from antibiotic resistant «superbugs» rose 15% in 2020. Reuters Health Information, 2022.

8. Rhodes A. Surviving sepsis campaign: international guidelines for management of sepsis and septic shock: 2016 // Intensive Care Med. 2017. № 43. P. 304-377.