



INFLAMMATORY DISEASES OF THE PELVIC ORGANS: MODERN ASPECTS OF TACTICS

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Abstract: The review presents data on the epidemiology, etiology, features of the clinical course and diagnosis of inflammatory diseases of the pelvic organs in women, and analyzes risk factors for inflammatory diseases in women. Modern aspects of tactics for inflammatory diseases of the pelvic organs are considered. The role of consciously lowering the diagnostic threshold for inflammatory diseases and the prescription of empirical, antimicrobial therapy aimed at the greatest coverage of possible microbial pathogens is emphasized. Conditions that make it difficult to choose optimal treatment with antimicrobial drugs are presented. Thus, inflammatory diseases of the pelvic organs remain one of the pressing problems of modern gynecology, the solution of which should be aimed at prevention and increasing the reproductive potential of women who have previously suffered from this pathology.

Key words: pelvic inflammatory diseases, gram-negative bacteria, gram-positive cocci, representatives of the class Mollicutes, sensitivity of microflora to antimicrobial drugs, infertility, miscarriage.

Pelvic inflammatory diseases (PID) are among the most widespread diseases in modern gynecology. PID has a significant negative impact on morbidity, quality of life, and reproductive health of women.¹ In Russia, patients with PID make up 60-65% of the total number of patients who applied to the antenatal clinic, and 30% of patients sent to the hospital. According to the Ministry of Health and Social Welfare of the Russian Federation, the frequency of salpingitis and oophoritis in Russia is 1,236.7 per 100,000 female populations (2020), the value of the same indicator in the Far Eastern Federal District (FEFD) was 1,306.9 per 100,000 female population (2020).

In the United States, up to 1 million new cases of PID are diagnosed annually. This pathology affects up to 2% of sexually active women under the age of 25. The peak incidence occurs at the age of 17-28 years, and is clearly comparable to an active sexual life and the absence of barrier methods of contraception. PID accounts for approximately 2.5 million visits to physicians, despite the fact that only 11% of women with PID in the United States receive hospital treatment. The financial cost of treating PID in the United States is \$4 billion per year. The main costs, in this regard, are due to the treatment of complications of PID such as infertility, chronic pelvic pain, ectopic pregnancy.² The frequency of female infertility in the

¹ Гинекология: национальное руководство / Под ред. В.И. Кулакова, И.Б. Манухина, Г.М. Савельевой. - М.: ГЭОТАР-Медиа, 2007. - 1072 с. // Неотложные состояния в акушерстве: Руководство для врачей / В.Н. Серов [и др.]. М. : ГЭОТАР-Ме-диа, 2010. - 320 с.

² Jernberg E., Mogbaddam A., Moi H. Azithromycini and maxifloxacin for microbiological cure of Mycoplasma genitalium infection: an open study. Int J STD AIDS 2008; 19: 676-9.

Russian Federation remains quite high and amounts to 517.5 per 100,000 female population (2010), this figure in the Far Eastern Federal District is 385.6 per 100,000 female population. In addition, the frequency of ectopic pregnancy in the Russian Federation in the structure of causes of maternal mortality reaches 3%, and in the Far Eastern Federal District, in some years this figure reaches 6-7%.

The incidence of complications increases with the number of episodes of the disease. After the first episode of PID, infertility develops in 15% of women, and chronic pelvic pain and ectopic pregnancy in 10% of patients. In women who have had two episodes of the disease, the incidence of chronic pelvic pain increases to 30%, and in women who have had three or more episodes - up to 67%. Repeated episodes of PID are associated with a 4- to 6-fold increase in the risk of irreversible fallopian tube damage [11, 18, 22, 40].

Despite the special attention paid to this problem, success in the prevention of reproductive complications of PID has not been achieved [22, 41]. The main trigger for the development of PID is microbial invasion. The cervix represents an important protective barrier against the spread of bacteria into the internal genital organs. The presence of pathogenic bacteria in the cervical canal may indicate both its contamination and true colonization. An unambiguous interpretation is difficult due to the lack of such a concept as normal cervical flora [10].

Многие авторы единодушны во мнении, что ведущим инициатором ВЗОМТ являются *Chlamydia trachomatis* (30 %), *Neisseria gonorrhoeae* (50 %), в то же время представители нормальной флоры полового тракта (анаэробы, *Gardnerella vaginalis*, *Neamophilus influenzae*, *Streptococcus agalactiae*, *E.coli*, *Klebsiella*, *Proteus* и т.д.) играют важную роль в поддержании воспалительного процесса [10, 18, 19, 24, 25, 35]. В настоящее время с ВЗОМТ стали ассоциировать цитомегаловирус, представителей класса Mollicutes (*Mycoplasma genitalium*, *Ureaplasma urealyticum*, *Mycoplasma hominis*). По мнению ряда авторов *Mycoplasma hominis* в 15-30 % случаев является причиной ВЗОМТ. Важно отметить, что в 15-20 % случаев ВЗОМТ возбудитель выявить не удастся [3, 5, 6, 26, 28].

According to a number of researchers, one of the pressing problems is to determine the degree of influence of representatives of the class Mollicutes on reproductive function. Infertility in women can be a consequence of inflammatory processes in the urogenital tract caused by ureaplasma infection (UMI). Morphological and functional changes in the organs of the reproductive system during PID and UMI cause pathological afferentation in the parts of the central nervous system that regulate the hypothalamic-pituitary-ovarian system. As a result of these changes, there is a decrease in the endocrine function of the ovaries, leading to disruption of the ovulation process. Inflammatory processes in the endometrium lead to its structural and functional inferiority, disruption of the receptor apparatus, which, in turn, causes premature termination of pregnancy.

Reports have been published on the ability of mycoplasmas to cause chromosomal changes in cells, affecting the chromosomal apparatus of diploid cells of the human embryo. The changes in cells caused by *Mycoplasma hominis* were similar to those caused by Down's disease. The appearance of chromosomal aberrations was noted in human leukocytes during infection with *Ureaplasma urealyticum*, isolated from women with recurrent miscarriage. It is

known that ureaplasma is adsorbed on sperm and is found in women with spontaneous abortions.³

In all variants of mycoplasma and mixed infection, women with a burdened obstetric history experienced vascular, dystrophic, necrotic and proliferative changes in the placenta, which led to circulatory disturbances in the “mother-placenta-fetus” system. A characteristic complication of pregnancy with infections caused by mycoplasmas is the formation of chronic placental insufficiency and fetal malformations (kidney dysplasia, subsequently leading to the development of pyelonephritis). In almost all cases, pregnancy in women infected with mycoplasmas is complicated by the threat of miscarriage, gestosis, intrauterine infection, and premature rupture of membranes. The outcome of such pregnancies is miscarriage.

PID refers to the entire spectrum of inflammatory processes in the upper reproductive tract of women. They can be represented by one nosological form (endometritis, salpingitis, oophoritis, tubo-ovarian abscess, pelvioperitonitis), or any combination thereof.

Routes of infection include:

- ascending - through the cervical canal, uterine cavity, fallopian tubes - to the pelvic peritoneum and abdominal organs, including during various medical procedures (instrumental abortion and uterine curettage, insertion of intrauterine contraceptives (IUD), hysterosalngoscopy, etc. .d.);
- lymphogenous;
- hematogenous;
- contact - along the peritoneum, from the primary pathological focus of the abdominal organs, for example, with appendicitis.

The clinical picture of PID is extremely variable, and even an acute inflammatory process can cause certain difficulties in diagnosis due to the large number of possible symptoms. A significant proportion are patients with a mild or subclinical course of the disease. At the same time, delayed diagnosis and treatment contribute to the spread of the inflammatory process to the upper parts of the reproductive tract.

When diagnosing PID, it is important to identify risk groups:

- a history of STIs and previous episodes of PID;
- surgical intervention on the organs of the reproductive system, especially intrauterine manipulation;
- a history of complications of the gestational period and childbirth;
- long-term use of an IUD;
- frequent change of sexual partners and lack of barrier methods of contraception.⁴

Clinical diagnosis of acute PID is often inaccurate and has a 65-90% predictive value compared to laparoscopy. The number of undiagnosed cases of PID with nonspecific symptoms remains quite high. Given the difficulties of diagnosis and the potential risk for reproductive health (even in cases of atypical and asymptomatic course), many clinicians consider it advisable to significantly lower the diagnostic threshold for PID.

³ Кузьмин В.Н., Гусейнзаде М.И. Современные представления о роли микоплазменной инфекции в структуре воспалительных заболеваний органов малого таза // Consilium medicum. - № 6 - Т. 13. - 2011. - С. 40-45.

⁴ Boek A.J. The risk of pelvic inflammatory disease with urogenital infection with Chlamydia trachomatis. Ned Tijdschr Geneesk 2005; 16 (149): 878-884.



According to a number of researchers, therapy for PID should be reasonably aggressive and based primarily on empirical antimicrobial therapy with drugs with a broad spectrum of action. A prerequisite for therapy is the effectiveness of antibiotics against *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, even in the case of negative results of bacterioscopic, bacteriological examination, polymerase chain reaction method of material from the cervical canal, since the possibility of the presence of these microorganisms in the overlying parts of the female genital organs cannot be excluded.

The main component of treatment for PID is antibiotics. Solving the issue of adequacy and timeliness of antibacterial therapy is the most pressing and is often life-sustaining.⁵

The complexity of resolving this issue is due to a number of conditions:

- variety of etiologically significant pathogens (mixed infections) of PID;
- the need to use broad-spectrum antibiotics or, more often, a combination of antibiotics;
- empiricism of initial therapy;
- frequent irrational use of antibiotics and the resulting increase in resistance to pathogens.⁶

Currently, medical communities offer different treatment regimens for PID, and although the same groups of antibacterial drugs are used, differences in doses, regimens and combinations of drugs are allowed. In a hospital setting, intravenous administration of drugs should continue for at least 24 hours after the onset of symptoms of clinical improvement, and then the patient should be transferred to an oral regimen of drugs. The absence of positive clinical dynamics within 72 hours, while taking antimicrobial therapy, in severe PID is an indication for surgical exploration of the abdominal organs. In all inpatient and outpatient treatment regimens, metronidazole-containing drugs must be used.

The variety of modern antibiotics provides sufficient opportunities for their choice, however, adequate therapy should be based primarily on the effectiveness and safety of antibiotics proven in controlled clinical trials and, of course, data on their resistance. Thus, modern tactics for PID should include a modern algorithm of diagnostic and treatment resources, a conscious reduction in the diagnostic threshold, the use of empirically selected combinations of antimicrobial drugs, as well as prediction of possible complications and outcomes of the disease.

⁵ Jaiyeoba O., Lazenby G., Soper D.E. Recommendations and rationale for the treatment of inflammatory disease. *Expert Rev Anti Infect Ther* 2011; 9 (1): 61-70.

⁶ Рациональная фармакотерапия в акушерстве и гинекологии: Рук. Для практикующих врачей / В.И. Кулаков, В.Н. Серов, П.Р. Абакарова и др. - М.: Литтерра, 2005. - 1152 с.



References:

1. Гинекология: национальное руководство / Под ред. В.И. Кулакова, И.Б. Манухина, Г.М. Савельевой. - М.: ГЭОТАР-Медиа, 2007. - 1072 с.
2. Неотложные состояния в акушерстве: Руководство для врачей / В.Н. Серов [и др.]. М. : ГЭОТАР-Медиа, 2010. - 320 с.
3. Olimova N. I. Analysis of the somatic and reproductive history of women with genital inflammatory diseases due to HIV infection // Актуальные вопросы экспериментальной микробиологии: теория. -2022. -Т. 1. -№. 2. -С. 30.
4. Olimova N. I. Results of the study of women's immune system in infectious diseases of small belly organs // World Bulletin of Public Health // . -2022. -P. 87-92.
5. Olimova N. I. Cytokine status in hiv infected women with inflammatory diseases of the genitals // International Engineering Journal For Research & Development // . -2020. -P. 5-5.
6. Olimova N. I. The Role Of Immunological Factors In The Pathogenesis Of Hiv Infection In Women Of Reproductive Age With Genital Inflammatory Diseases // Journal of Pharmaceutical Negative Results // . -2022. -P. 2695-2700.
7. Narzulaeva, U. R. (2023). ETIOPATHOGENESIS OF HEMOLYTIC ANEMIA. Web of Medicine: Journal of Medicine, Practice and Nursing, 1(1), 1-4.
8. Абдуллаев, П. Б., Халматова, Н. М., & Маткаримова, Д. С. (2011). Некоторые особенности патогенетического течения иммунного микротромбоваскулита и тромбоцитопатии у допризывников, проживающих в зоне Южного Приаралья. Журнал «Бюллетень Ассоциации врачей Узбекистана». Ташкент, (1), 17-20.
9. Ахмедова, М. (2020). НАРУШЕНИЯ ЭНДОТЕЛИАЛЬНОЙ ФУНКЦИИ ПРИ РАЗВИТИИ АФТОЗНОГО СТОМАТИТА. Достижения науки и образования, (18 (72)), 65-69
10. Bakhshullayevich, T. B., & Shaxina, S. (2022). Classification of Enzymes. EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY, 2(5), 37-39.
11. Obidovna, D. Z., & Sulaymonovich, D. S. (2023). Influence of the Mode of Work and Recreation of the Student's Health. INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES, 2(3), 3-5.
12. Obidovna, D. Z., & Sulaymonovich, D. S. (2023). Forming a Healthy Lifestyle for Students on the Example of the Volleyball Section in Universities. EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION, 3(3), 22-25.
13. Irgashev, I. E. (2023). RESPIRATORY DISTRESS SYNDROME. Horizon: Journal of Humanity and Artificial Intelligence, 2(5), 587-589. Retrieved from <https://univerpubl.com/index.php/horizon/article/view/1726>
14. Obidovna, D. Z., & Sulaymonovich, D. S. (2022). Physical activity and its impact on human health and longevity. Достижения науки и образования, (2 (82)), 120-126.
15. Obidovna, D. Z., & Sulaymonovich, D. S. (2022). THE CONCEPT OF "HEALTHY LIFESTYLE" IN PSYCHOLOGICAL RESEARCH. ResearchJet Journal of Analysis and Inventions, 3(06), 53-64.
16. Jo'rayev, S., & Djalilova, Z. (2022). NEUROLOGICAL STATUS OF CHILDREN WITH INTRAUTERINE DEVELOPMENTAL DELAY. International Bulletin of Medical Sciences and Clinical Research, 2(9), 34-37.
17. Azamat o'g'li, A. A. (2023). KANAKUNJUT O 'SIMLIGINING DORIVOR XUSUSIYATLARI. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 3(5), 200-202.

18. Hazratova, D. (2023). ORGANIK KIMYODA "ALKANLARNING TUZILISHI VA IZOMERIYASI" MAVZUSINI OQITISHDA ZAMONAVIY KIMYOVIY KOMPYUTER DASTURLARIDAN FOYDALANISH. ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu.uz), 38(38).
19. Toxirov, B. B., Tagaeva, M. B., & Shukurova, S. (2023). Obtaining stabilized enzymes and their application in the food industry. *Science and Education*, 4(4), 529–537. Retrieved from <https://openscience.uz/index.php/sciedu/article/view/5560>
20. Irgashev, I. E. (2022). COVID-19 BILAN KASALLANGAN BEMORLARDA ANTIKAOGULYANT TERAPIYANING YANGICHA TAMOILLARI. BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI, 2(12), 462-466.
21. Джалилова, З. (2023). The notion of illocution in the theory of speech acts by John Austin. *Современные тенденции при обучении иностранному языку в XXI веке*, 1(1).
22. Azamat ogli, A. A., & A'zamovna, H. D. (2022). МАКТАБ ОҚУВЧИЛАРИДА КИМЙО ФАНИНИ ОҚИТИШДА ИНТЕРФАОЛ МЕТОДЛАРДАН FOYDALANISHNING TALIM SAMARADORLIGIGA TA'SIRI. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(3), 152-155.
23. Azamat ogli, A. A., & Shahribonu, B. (2023). BOIKIMYO FANIDA CHEM OFFICE DASTURLARIDAN FOYDALANISH. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 3(3), 272-274.
24. Irgashev, I. E. (2022). New Principles of Anticoagulant Therapy in Patients with Covid-19. *Research Journal of Trauma and Disability Studies*, 1(12), 15–19. Retrieved from <http://journals.academiczone.net/index.php/rjtds/article/view/467>
25. Хафизова, М. Н. КРИТЕРИИ ОБУЧЕНИЯ ПРОФЕССИОНАЛЬНО-ОРИЕНТИРОВАННОЙ КОМПЕТЕНЦИИ.
26. Rakhmatova, D. B., & Zikrillaev, F. A. (2022). DETERMINE THE VALUE OF RISK FACTORS FOR MYOCARDIAL INFARCTION. *FAN, TA'LIM, MADANIYAT VA INNOVATSIYA*, 1(4), 23-28.
27. Kazakova, N. N., & Sh, S. D. (2022). Evaluation of the prevalence and intensity of caries in children with rheumatism. *INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES* ISSN: 2349-7793 Impact Factor: 6.876, 16(5), 156-160.
28. Togaydullaeva, D. D. (2022). ARTERIAL GIPERTONIYA BOR BEMORLARDA KOMORBIDLIK UCHRASHI. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(11), 32-35.
29. Togaydullaeva, D. D. (2022). Erkaklarda yurak ishemik kasalligining kechishida metabolik sindrom komponentlarining ta'siri. *Fan, ta'lim, madaniyat va innovatsiya*, 1(4), 29-34.
30. Gafurovna, A. N., Xalimovich, M. N., & Komilovich, E. B. Z. (2023). KLIMAKTERIK YOSHDAGI AYOLLARDA ARTERIAL GIPERTENZIYANING KECISHI. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 23(6), 26-31.
31. Саидова, Л. Б., & Комилжонова, О. О. Патологическое течение гипотиреоза в климактерическом период в йододефицитной зоне Узбекистана. In *International Conference Science and Education/Uluslararası konferans bilim ve eğitim//2021-15may-49b*.
32. Numonova, A., & Narzulayeva, U. (2023). EPIDEMIOLOGY AND ETIOPATHOGENESIS OF CHF. *Наука и инновация*, 1(15), 115-119.
33. Axmedova, M. (2023). THE IMPACT OF SOCIOCULTURAL FACTORS ON THE PERVASIVENESS OF DENTAL CARIES AS A COMPLEX HEALTH CONDITION IN CONTEMPORARY SOCIETY. *International Bulletin of Medical Sciences and Clinical Research*, 3(9), 24-28.

34. Qobilovna, A. M. (2023). COMMUNICATIVE COMPETENCE AS A FACTOR OF TEACHER'S PROFESSIONAL COMPETENCY. American Journal Of Social Sciences And Humanity Research, 3(09), 32-44.
35. Нарзулаева, У., Самиева, Г., & Насирова, Ш. (2023). Гемореологические нарушения на ранних стадиях гипертензии в жарком климате. Журнал биомедицины и практики, 1(1), 221–225. <https://doi.org/10.26739/2181-9300-2021-1-31>
36. Narzulaeva, U. R. (2023). Important Aspects of Etiology And Pathogenesis of Hemolytic Anemias. American Journal of Pediatric Medicine and Health Sciences (2993-2149), 1(7), 179-182.

