FEATURES OF ANTIBACTERIAL THERAPY OF CHRONIC BACTERIAL PROSTATITIS ON THE BACKGROUND OF ATYPICAL UROINFECTION

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Feoktistov Vitaliy Alexandrovich
Assistant Professor of the Department of Surgical Diseases,
Non-profit Joint Stock Company “Medical University of Karaganda”,
Karaganda, Kazakhstan

Amantaeva Markhaba Askarovna
5th year student of the school of general medicine NJC MUK

Veisenberg Tatiana Vladimirovna
5th year student of the school of general medicine NJC MUK

ABSTRACT

This study was made of 87 patients with a chronic bacterial prostatitis complicated by atypical uroinfection. The endocellular pathogens were identified among 38 patients on the background of chronic kidney disease in the acute phase and among 49 patients in the lag phase. There were identified 97 cultures in total. The associative microflora has been submitted by mainly two-componential association and was observed in 19 % cases.

Пациенты получали таблетированную форму рокситромицина в суточной дозе 300 мг, азитромицина в суточной дозе 1000 мг и джозамицина в суточной дозе 1500 мг в течение 10-14 суток.

Максимальная клиническая и бактериологическая эффективность лечения отмечалась в случае применения джозамицина.

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Максимальная клиническая и бактериологическая эффективность лечения отмечалась в случае применения джозамицина.
Patients received in tablet form of roxithromycin in a daily dose of 300 mg, azithromycin in a daily dose of 1000 mg and josamycin in a daily dose 1500 mg during 10-14 day. The maximal clinical and bacteriological efficiency of treatment was marked in case of application josamycin.

**Key words:** prostatitis, treatment, macrolides.

**The introduction.** One of the most common reasons forcing men to see a urologist is chronic prostatitis. According to various literature information, prostatitis suffers by 35 to 85% of men. Moreover, in up to 80% of cases, the disease is detected at the age of 18-50 years, i.e. during the period of greatest worker and reproductive activity[1,2].

At the present, chronic prostatitis is a polyetiological disease, the occurrence of which is based on the presence of an infectious agent and congestion, as well as neurovegetative, immunological, and hormonal disorders in the body of a man[3]. Imperfect diagnosis, inappropriate antibiotic therapy, sometimes self-treatment of chronic prostatitis contributes to the development of frequent exacerbations of chronic prostatitis contributes to development of frequent exacerbations with a long persistent course, reducing the quality of life, leading to male infertility, especially against the background of intracellular uroinfection[4,5].

The purpose of the research is evaluation of the clinical effectiveness and tolerability of some antibacterial drugs from the macrolide group in the treatment of chronic bacterial prostatitis(CKD) against the background of atypical uroinfection.

**Methods.** Macrolides were used to treat CKD complicated by atypical uroinfection in 87 men aged 24 to 57 years. The selection of patients was carried out on the basis of a study of 3 portions of urine (2 portions before the massage of the prostate and 1 after massage) and the secretion of the prostate gland obtained after her massage (the test pf Meares-Stameu). The diagnosis of prostatitis of bacterial etiology was established in patients in whom the first two portions of urine were sterile, the growth of microorganisms in an amount equal to or greater than 103 CFU. In the 3 portions of urine after the massage of the prostate gland, the growth of identical microflora was observed in an amount 9 times less compared to the seeding of the secretion. Atypical intracellular infection was diagnosed by direct immunofluorescence (DIF) and polymerase chain reaction (PCR) scrapings from the urethra. In 38 patients, atypical infection was detected against the background of exacerbation of CKD, and in 49 - in the latent phase. In research did not include patients with negative analyzes for atypical pathogens, allergy to antibiotics of the macrolide group, under the age of 18, who had taken other antibacterial drugs within the last 24 hours. All patients were carried out etiopotopic monotherapy with drugs of the macrolide group under the control of microflora sensitivity in vitro. Macrolides have been used in combination with immunotherapy and physiotherapy. The method of direct immunofluorescence was used to control the effectiveness of treatment.

Roxithromycin (RulidR, Aventis Pharma) was used at a dosage of 150 mg 2 times a day. The course of treatment was 14 days.

Azithromycin (sumamedR, "Pliva") was assigned according to the scheme: 1000 mg once a day. The duration of the course of therapy was 10 days.

Josamycin (Vilpra, "Astellas Pharma") was used 1 tablet 3 times a day, in a daily dose of 1500 mg for 10-14 days.

The choice of a drug for the treatment of one or another intracellular pathogen in our study was not of fundamental importance, since pathogens have a similar sensitivity to antibiotics of the macrolide group [3,5].

**Results and discussion.** Before starting treatment, in the microbiological study of the secretion prostate gland were isolated 127 cultures. The titers of the studied microorganisms ranged from 104 to 106 CFU / ml. Several associations have been identified. In 5 observations, associations of the culture of Streptococcus faecalis with Staphylococcus aureus were encountered, in 5 - the culture of Staphylococcus saprophyticus with the cultures of Streptococcus viridans. In the other 6 observations, associations of Escherichia coli cultures with gram-positive microorganisms - Staphylococcus aureus and epidermalis were noted, and in 1 observation - in association with Streptococcus faecalis.

In the research of scraping from the urethra, 97 cultures of intracellular pathogens were identified. The associative microflora was represented mainly by a two-component association and was observed in 19% of cases. At the same time, a pronounced predominance of Mycoplasma hominis with a predominant release of Ureaplasma urealyticum was noted.

All patients were divided into 3 groups. The first group (29 patients) received roxithromycin, the second group (29 patients) received mototherapy with azithromycin, and the remaining 29 patients received josamycin in the indicated dosages. The control of the effectiveness of treatment was carried out on the 14th day after the start of therapy and 2 weeks after the first control (Table 1).

Roxithromycin therapy was effective in 26 cases, which accounted for 90% of patients, in 2 cases, during the first control using the PIF method, the pathogen was determined. In this case, the treatment was extended by 7 days at the same dosage, and after the second control, the elimination of the pathogen was achieved in one case. However, in 1 patient, the clinical symptoms of CKD persisted for 10 days and disappeared completely by the end of the third week of treatment.

A similar situation was observed during treatment with azithromycin.

The effectiveness of this drug was observed in 27 cases, which amounted to 93% of patients (Table 1). In 1 case, during the first control after identifying the
pathogen, the treatment was extended by 3 days at the same dosage, and after the second control, the elimination of the pathogen was 100%. In 22 patients (76%), the clinical symptoms of CKD regressed on days 7-8 and completely disappeared by the end of the second week of treatment. In 3 patients, clinical and laboratory evidence of the disease persisted during treatment and returned to normal by the end of treatment (10-12 days).

Using josamycin in monotherapy gave better results (Table 1). Elimination of the pathogen was fully observed already on the 15th day of treatment and did not require the continuation of antibiotic therapy. The regression of CKD symptoms was observed in almost all patients of this group on days 7-10. The effectiveness of the use of josamycin was confirmed by clinical and laboratory data and amounted to 100%.

<table>
<thead>
<tr>
<th>A medicine</th>
<th>Daily dose</th>
<th>frequency of reception</th>
<th>Days of treatment</th>
<th>14 days of treatment</th>
<th>After 2 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roxithromycin</td>
<td>300 мг</td>
<td>2</td>
<td>14</td>
<td>90%</td>
<td>97%</td>
</tr>
<tr>
<td>Azithromycin</td>
<td>1000 мг</td>
<td>1</td>
<td>10</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td>Josamycin</td>
<td>1500 мг</td>
<td>3</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

As can be seen from the data presented in the table, the maximum clinical and bacteriological effectiveness of treatment was observed in the case of using josamycin. In this way, the data obtained indicate a high therapeutic efficacy of the 16-membered macrolide josamycin in comparison with other drugs of this group in the treatment of urogenital infections.

**Conclusions**

1. Macrolides are highly effective in the treatment of CKD associated with intracellular infection.
2. Josamycin, like other macrolides with a 16-membered lactone ring, can currently be considered as the agent of choice in the treatment of non-gonococcal urethritis associated with CKD, the main causative agents of which are chlamydia and mycoplasma.
3. The use of macrolides in combination with immunomodulators and physiotherapy leads to a faster elimination or regression of the symptoms of the disease.

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**ROLE OF ANTIOXIDANT THERAPY IN PREVENTION OF LIPOPEROXIDATION AND PROCOAGULANT ACTIVITY OF PLATELETS IN SARS-COV-2 VIRAL INFECTIONS**

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Якубова Е.Г.
кандидат мед. наук, доцент кафедры акушерства,
гинекологии и реаниматологии с курсом клинико-лабораторной диагностики
ИНПР ФГБОУ ВО «ТюмГМУ» Минздрава РФ;
врач эндокринное высшей категории,
акушер-гинеколог научно-практического медицинского центра "Урал-Проф".

Алборов Р.Г.
доктор мед. наук, профессор кафедры общей хирургии
ФГБОУ ВО «ТюмГМУ» Минздрава РФ;
врач уролог-андролог высшей категории.
Генеральный директор научно-практического медицинского центра "Урал-Проф".
Председатель Профессионального Общества урологов Тюменской области.