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СОВРЕМЕННЫЕ МЕТОДЫ ДИАГНОСТИКИ И ЛЕЧЕНИИ ХРОНИЧЕСКИХ ЦИСТИТОВ У ДЕТЕЙ

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✓ ***Резюме,***

В статье изложен аналитический обзор литературы о хроническом цистите у детей. Освещены актуальность, этиология и патогенез. данной проблемы. Рассмотрены основные этапы диагностики. Подробно представлен основной метод диагностики - цистоскопия с биопсией слизистой мочевого пузыря, описана схема лечения хронического цистита. Продемонстрированы различные методы местного лечения, проанализированы их преимущества и недостатки, обоснован выбор оптимального способа эндотерапии хронического цистита.

Ключевые слова: цистит, диагностика, лечение, дети.

БОЛАЛАРДА СУРУНКАЛИ ЦИСТИТЛАРНИ ТАШХИСЛАШ ВА ДАВОЛАШНИНГ ЗАМОНАВИЙ УСУЛЛАРИ

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✓ ***Резюме,***

Мақолада болаларда сурункали циститларни аналитик адабиётлар шарҳи келтириб ўтилган. Бу касалликни долзарблиги, этиологияси ва патогенези ҳақида сўз боради. Бундан ташқари тасхишлашга алоҳида ёндошиб ўтилган, яъни цистоскопия пайтида сийдик пуфаги шиллиқ қаватидан биопсия олиш, касалликни даволаш схемаси ёритилган. Маҳаллий даволашнинг турли усуллари таҳлил қилиниб, ундаги принципеал камчиликлар ёритилиб, эндотерапиянинг оптимал услублари ҳақида таҳлилий фикр берилган.

Калит сўзлар: цистит, ташхис, даволаш, болалар.

MODERN METHODS OF DIAGNOSTICS AND TREATMENT OF CHRONIC CYSTITES IN CHILDREN

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✓ ***Resume,***

In the article the analytical review of the literature on a chronic cystitis at children is stated. The urgency of the given problem, etiology and pathogenesis are covered. The basic stages of diagnostics are considered. The basic method of diagnostics - cystoscopy with a bladder mucous biopsy is presented in details. The scheme of chronic cystitis treatment is described. Various methods of local treatment are shown, advantages and disadvantages are analyzed and substantiations of a choice of an optimum bladder therapy are given.

Key words: cystitis, diagnosis, treatment, children

The relevance of the problem

Chronic inflammation of the bladder (MP) occupies an important place in the structure of urological diseases in children, and the problem of diagnosis and treatment of chronic cystitis (Ch C) is still very relevant [2]. Children with HC constitute a significant part (19-21%) of the total number of hospitalized patients [1]. The risk of developing a urinary tract infection during the first 10 years of life occurs in 1% of boys and 3% of girls [4]. The criterion of the chronic course is either the very fact of the occurrence of periodic exacerbations of the inflammatory process in the MP wall without taking into account their number, or the development of 2 or more exacerbations per year [1,3,5].

Many authors see the danger of chronic cystitis (ChrC) not only in its recurrent course (with adequate complex therapy), but also in the possibility of pyelonephritis as a result of ascending urogenital infection [5]. So, in 16% of children suffering from ChrC, vesicoureteral reflux is detected. Moreover, ChrC is detected in 92% of patients with pyelonephritis (PN). The literature discusses the role of ChrC in the development of tumors in its recurrent course in adults [2,6]. The close relationship of cystitis with the chronic pathology of the female reproductive system allows us to talk about the danger of this disease not only for women themselves, but also for their unborn children. The foundations of the health of expectant mothers are laid precisely in childhood, что делает своевременную терапию ХрЦ у девочек особенно актуальной [1,4].

Cystitis is defined by most authors as an inflammatory disease of the bladder wall. It is believed that in acute cystitis, the mucous and submucosal layers are mainly affected, while in the chronic inflammatory process, the deeper muscle layer is also affected. A criterion for the chronic course is either the very fact of the occurrence of periodic exacerbations of the inflammatory process in the wall of the bladder without taking into account their number, or the development of 2 or more exacerbations per year [1.8].

The causes of the formation of a chronic infectious process in children are discussed quite intensively in the literature. Many authors see them as having structural,

morphological, and functional changes in the bladder [7]. Bacterial invasion is only a prerequisite for the development of a chronic inflammatory process [1,7]. However, to date, most researchers have recognized bacterial contamination as the main factor causing non-specific inflammation of the bladder (MP). On the mechanisms of penetration of microorganisms into the urinary tract, the opinions of various authors differ. There are mainly three pathways of MP infection: hematogenous, lymphogenous, and ascending [6.8].

Cystoscopy is the most reliable method for the diagnosis of ChrC [5,7]. It allows you to assess the degree and nature of the lesion of the mucous membrane of the MP, as well as the condition of the mouth of the ureters. In the literature, references to biopsy of the MP wall with subsequent verification of morphological changes are rare, although it is the histological picture that allows you to determine the type of local therapy [3,5]. Based on the study of biopsy obtained by cystoscopy (CS), the most appropriate selection of the treatment method for a particular patient is possible.

Today, pediatricians, nephrologists and urologists, especially foreign ones, prefer massive and long-term systemic antibacterial therapy of ChrC, which leads to the frequent development of allergic reactions, as well as the "education" of resistant flora [2]. In contrast to this, at the beginning of the last century, MP installations were used [3,7]. Currently, intravesical therapy in the form of bladder installations is widely used in our country for the treatment of ChrC in children [3,4].

In the literature, there are a lot of options for intravesical therapy of ChrC [6]. According to some authors, this diversity is due to the lack of a persistent clinical effect with any of the proposed methods of treatment [4.7], which requires further research in terms of the selection of rational local therapy.

Due to the widespread prevalence of ChrC, doctors of various specialties have to deal with this pathology, both in the hospital and on an outpatient basis. Therefore, the search for new intravesical therapy regimens, a differentiated approach to the choice of injected drugs based on the characteristics of the clinic and the results of laboratory and instrumental research methods in a particular patient suffering from ChrC, seem to us very relevant.

Purpose of the study. to develop a differentiated approach in the treatment of chronic cystitis in children based on the selection of clinical and endoscopic options.

Material and method

A survey, observation and treatment of 163 girls suffering from chronic cystitis were conducted on the basis of AODB, Department of Nephrology.В исследование были включены дети 4-16 лет, страдающие ХрЦ, подтверждённым эндоскопически, не имеющие пузырно-мочеточникового рефлюкса (ПМР). Пациенты имели стаж заболевания от 2 до 5 лет. Терапия, проводимая им по месту жительства (введение пероральных и парентеральных уроантисептиков, инсталляции антисептических, иммуномодулирующих и стимулирующих репарацию препаратов) по поводу ХрЦ, не имела стойкого эффекта.

The results of our own research

In children of both groups, we compared the clinic and the nature of the mucosal lesions of the MP. No significant differences were found. However, partial daytime urinary incontinence was relatively more common in children with granular ChrC than in patients with bullous ChrC.

During laboratory examination, children of both groups revealed leukocyturia of predominantly massive nature. There were no differences in the severity of leukocyturia with granular and bullous ChrC.

In microbiological examination of urine, Escherichia coli was most common (36%). More rarely, Entfaecalis and Klebsiella pneumoniae (11% and 8%, respectively). Mixed flora was determined in 19% of cases. It consisted of the aforementioned microorganisms and Pseudomonas aeruginosa. In 21% of the studies, urine cultures did not produce growth, which was probably associated with previous (at the place of residence) antibiotic therapy.

After the treatment, the soreness with miktsia disappeared in all children with this symptomatology in both groups. Dysuric manifestations in the form of full or partial day or night urinary incontinence underwent a gradual regression as the next courses of complex therapy of ChrC were carried out.

During the course of complex therapy for bullous ChrC, leukocyturia normalizes in children of group I in 7 days, and in children of group II in 14 days ($p < 0.01$). With granular ChrC, the same effect is observed for 7 and 11 days, respectively, in both groups ($p < 0.05$). Soreness with the introduction of an instillate containing enterosgel was not recorded. In addition, the use of this treatment method allows to reduce the concentration of dioxidine in 2 times. Achieving endoscopic remission occurs after 3-5 courses of complex therapy of ChrC. Over the 1.5-2 year follow-up period, patients with endoscopic remission after complex therapy with ChrC did not have recurrence of the disease.

According to indications, children of both groups were prescribed systemic uroantiseptics. In group I, they were used in 90 (76%) girls, and in group II - in 39 (89%). There was no need to prescribe uroantiseptics to 29 (24%) and 5 (11%) patients of groups I and II, respectively.

With isolated installations, there were practically no differences in the timing of the relief of leukocyturia. This is due to the small number of observations in group II, since they often had to prescribe uroantiseptics (89% compared with 76% of group I) due to the low efficiency of the installations. With the concomitant administration of uroantiseptic, leukocyturia in children of group I significantly more often disappeared faster than in children of group II ($p < 0.01$).

Relief of leukocyturia in children of group I occurred on average 6 days earlier than in children of group II ($p < 0.01$).

During the study, a group of children was identified in whom, after a course of complex therapy, leukocyturia persisted, although it decreased from massive to moderate. All girls had granular HRC. Granules in terms morphologies are accumulations of lymphoid-histiocytic and plasma cells. This allowed us to suggest the interest of viruses in the development of granular ChrC.

An additional examination aimed at detecting herpes simplex viruses of types 4 and 2 and cytomegalovirus was

carried out in 10 girls with granular ChrC and, as a comparison, in 4 girls with bullous ChrC. In 5 girls with granular ChrC, an excess of the concentration of IgG to herpes simplex virus type 1 was found to be an order of magnitude higher than the normal limit. The remaining 5 children also had an increase in the concentration of IgG to cytomegalovirus an order of magnitude from the upper limit of normal. One of these patients excreted urinary cytomegalovirus. In 4 girls with bullous ChrC, all results were within acceptable values.

Thus, in girls with granular ChrC, an interest was revealed in the viruses of the herpetic group (ithomegalovirus and herpes simplex virus type 1) in the development of the disease. At the same time, with bullous ChrC, these viruses were not found.

Cystoscopy is a key research method in ChrC. However, it is far from always possible to accurately verify the nature of the lesion of the mucous membrane of the MP, which requires a biopsy of inflammatory elements with their subsequent microscopy to clarify the morphological picture.

A biopsy of the granules of the mucous membrane of the MP was performed in 8 girls with granular ChrC. Light microscopy of the obtained material reveals nodules (granules), which are clusters of lymphoid-histiocytic and plasma cells in their own plate of the mucous membrane (lymphoid follicles). Electron microscopy of these biopsy specimens in urothelium revealed intranuclear inclusions similar to large viruses.

A bull biopsy was performed on 2 patients with bullous ChrC. When conducting light microscopy, edema and razvolennost collagen structures of the own layer of the mucosa and submucosal layer with focal and diffuse mononuclear infiltration are visible.

The foregoing leads to the thought of the contribution of the herpetic group viruses to the reduction of local defense factors in granular ChrC. In bullous ChrC, only bacteria play a role in terms of etiology, although in granular ChrC their importance is important. We came to the conclusion that bullous and granular ChrC are not stages of a single disease, but in essence they are etiopathogenetic and morphologically different processes that require an individual therapeutic approach.

In order to more clearly distinguish between different variants of ChrC (the likelihood of a similar picture with cystoscopy) and assess the degree of damage to the mucous membrane of the MP, it is proposed that diagnostic cystoscopy conduct a biopsy of inflammatory elements followed by light microscopy of the latter. It is recommended that patients with granular ChrC conduct research aimed at the detection of herpes viruses.

In connection with the results obtained with granular ChrC, complex therapy was modified. They received installations with a paste of Enterosgel 20 ml in combination with a 0.05% aqueous solution of chlorhexidine 20 ml (both drugs are mixed in the same syringe before administration in MP). The course of therapy consisted of 10 to 14 procedures. The installations were carried out before the physiotherapy session. The use of chlorhexidine was justified by the fact that the drug has an antiviral effect. In addition, all patients in this group were prescribed human recombinant interferon alfa-2b (viferon) in the form of rectal suppositories at an age dose of 2 times a day (for course No. 20), and in between between the courses of installations - an inducer of endogenous interferon (cycloferon in an age dosage according to the scheme).

The change of dioxidine to an aqueous solution of chlorhexidine is due to the presence in the latter in concentrations of 0.01% and higher not only of bactericidal action, but also of virucidal. The use of interferon in suppositories in the treatment of granular ChrC was carried out with the aim of obtaining an antiviral effect during the active stage of therapy (installation against physiotherapy). The subsequent appointment of an inducer of endogenous interferon is designed to level the decrease or even contribute to an increase in the production of intrinsic interferon after the introduction of exogenous.

Against the background of the course of complex therapy, leukocyturia in all 10 girls with granular ChrC was completely stopped.

Leukocyturia in the group with modified therapy stopped in an average of 6 days, which does not have a significant difference compared with group I (7 days). Thus, in the group with modified therapy, relief of urinary syndrome was achieved in all children. When comparing group II and the group with modified therapy, in addition to the complete disappearance of Lesheocyturia in the second case, the effect came 5 days faster (11 and 6 days, respectively) ($p < 0.01$).

The diagnosis is finally confirmed by cystoscopy when inflammatory changes in the mucous membrane of the MP are detected. The nature of the lesion should be clarified by examining the biopsy of the mucous membrane of MG1 in order to select an adequate local therapy.

In the treatment of exacerbation of ChrC, regardless of its type, a diet No. 5 according to Pevzner is prescribed. Drinking regimen is determined by the need of the patient.

Uroantiseptics are recommended for strict indications, taking into account the sensitivity of the allocated flora, a course sufficient to stop the urinary syndrome. In the absence of urine culture results, the drugs of choice are: phosphomycin trometamol, protected semisynthetic aminopenicillins, cephalosporins of 2-3 generations. An indication for the appointment of uroantiseptics is the need for invasive studies, such as cystography and cystoscopy.

Further therapy is determined by the endoscopic variant of ChrC. In case of bullous ChrC, installations of MP are prescribed with paste of enterosgel 20 ml in combination with 1% solution of dioxidine 20 ml (both drugs are mixed in one syringe before introduction into the MP), for a course of 10-14 procedures. Installation is carried out before a physiotherapy session.

In case of granular ChrC, installations with paste of enterosgel 20 ml are used in combination with a 0.05% aqueous solution of chlorhexidine 20 ml (both drugs are mixed in the same syringe before being introduced into the MP), 10-14 procedures per treatment course. Installation is carried out before a physiotherapy session. In addition, during the installation course, human recombinant interferon alpha-2b (viferon) is introduced in the form of rectal suppositories at an age dose of 2 times a day (for course No. 20).

Regardless of the type of ChrC, after installation, a physiotherapeutic procedure (UHF in the MP region) is carried out, aimed at relaxing the detrusor. In addition, physiotherapeutic effects have a beneficial effect on the inflammatory process, improving microcirculation in the MP and adjacent tissues. The number of physiotherapeutic influences corresponds to the number of installations.

Installation courses are held in a hospital with an interval of 2 months. For a complete relief of the

inflammatory process in the mucosa of the MP, as a rule, at least three courses are necessary. This is due to the fact that, firstly, part of the pathogens is located in the iodine mucous layer and cannot be completely eliminated in 1 course. Secondly, it is important to ensure not only the removal of pathogenic microorganisms from the MP, but also the full restoration of the damaged mucous membrane, as well as the local immunological defense system. Otherwise, a recurrence of the chronic inflammatory process is possible. In the interhospital period, control of leukocyturia in the general analysis of urine is required at least 1 time in 10 days. In case of detection of leukocyturia more than 20 leukocytes in the field of view, uroantiseptics are prescribed, preferably taking into account the sensitivity of the allocated flora. In patients suffering from granular ChrC, between the courses of installations, an endogenous interferon inducer (cycloferop in an age-related dosage according to the scheme) is used.

A differentiated integrated approach to the treatment of various variants of ChrC leads to a more rapid onset of clinical and laboratory remission, and, consequently, an improvement in the quality of life not only of the child, but also of the parents (therapeutic effect). In addition, the technique leads to a reduction in bed days and a decrease in the need for uroantiseptics (economic effect).

Conclusion

In the general structure of chronic cystitis in children, the leading etiological factor is E. coli (36%). The interest of the herpetic group viruses (cytomegalovirus and herpes simplex virus type 1) in the development of granular chronic cystitis in children has been determined.

In children with chronic cystitis, there are no reliable clinico-morphological parallels between granular and bullous chronic cystitis.

When children with suspected chronic cystitis are initially admitted to the clinic, it is recommended to add cystoscopy with a biopsy of inflammatory elements to the examination scheme, followed by light microscopy of the obtained biopsy.

The use of the sorbent enterosgel as part of the instillate is an effective component of therapy in the complex treatment of chronic cystitis in children.

The effectiveness of the treatment of chronic cystitis in children increases with a differentiated approach to their therapy, taking into account the nature of the pathogen and the morphological picture of the disease.

BIBLIOGRAPHY:

1. E.V. Melekhina, O.Ji. Chugunova, A.B. Filinov, M.B. Sagalovich / / Pharmacotherapy of chronic cystitis in children // Bulletin of pediatric pharmacology and nutrition. 2006; 3(1): 49-52.
2. O.L. Chugunova, E.V. Melekhina, A.V. Filipov, M.B. Sagalovich, A.Yu. Reznikov // To the question of the viral etiology of chronic cystitis in children // Children's infections. Materials of the Congress "Actual issues of infectious pathology and vaccine prophylaxis in children." 2006; 191 - 192.
3. O.L. Chugunova, E.V. Melekhina, V. Filipov, M.B. Sagalovich // Treatment of chronic cystitis in children // Bulletin of pediatric pharmacology and nutrition. 2007; 4(3): 44-48.
4. O.L. Chugunova, E.V. Melekhina, A.B. Filipov, M.B. Sagalovich, V.D. Kulaev // Features of the treatment of chronic cystitis in children // Questions of practical pediatrics. 2007; 2(3): 74 - 77.
5. O.L. Chugunova, E.V. Melekhina, A.B. Filipov, M.B. Sagalovich, V.D. Kulaev // A new approach to the local treatment of chronic cystitis in children // Materials of the 6th Russian Congress on Pediatric Nephrology. 2007; 108 - 109.
6. O.L. Chugunova, E.V. Melekhina, A.B. Filipov, M.B. Sagalovich, V.D. Kulaev // A differentiated approach to the etiotropic therapy of chronic cystitis in children // Materials of the 14th Congress of Pediatric Gastroenterologists of Russia. 2007; 324 - 328.
7. O.L. Chugunova, A.B. Filipov, E.V. Melekhina // The role of viruses in the development of urinary tract infections in children // Collection of annotated reports of the All-Russian Scientific and Practical Conference "Infectious aspects of somatic pathology in children." 2008; 82-83.
8. A.B. Filipov, O.L. Chugunova, E.V. Melekhina, M.B. Sagalovich / / Modern aspects of local therapy of chronic cystitis in children // Russian Bulletin of Perinatology and Pediatrics. 2008; 3: 77-82.

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