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CYSTITIS AND ITS ETIOPATHOGENESIS

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Cystitis is an infectious-inflammatory process in the bladder wall, localizing mainly in the mucosa. The main causative agent of the infectious-inflammatory process in the bladder wall is uropathogenic Esherichia coli, which is detected in 75-90% of patients. Staphylococcus saprophyticus is less common - in 5-10% of cases. More rarely, other Enterobacteriaceae such as Proteus mirabilis and Klebsiella spp. and other members of the Enterobacteriaceae family are isolated [2]. Microorganisms enter the bladder by different routes: ascending (urethral), hematogenous and lymphogenous routes. The ascending route of infection into the bladder in women is dominant [3,4].

Keywords: urethra, female, mucosa, cystitis, women, Enterobacteriaceae, patients.

Anatomical features of the female urethra, its short length and close location to the anal opening are recognized as one of the significant factors contributing to the frequent development of cystitis in women. Various instrumental endourethral interventions (bladder catheterization, endosuction) and sexual activity in women with so-called vaginal ectopia of the external urethral opening or hypermobility of the distal urethra contribute to the transport of infection into the bladder. With

bladder outlet obstruction in women, both organic and functional (against the background of detrusor-sphincter dyssynergy), urination occurs abnormally. With increased intraurethral pressure, the urine flow is not laminar, but turbulent, with a change in hydrodynamic characteristics and the appearance of turbulence. Bacteria are mobilized from the distal urethra walls and spread to the proximal sections, as well as the bladder, due to urethral-vezikal reflux [1,2,3].

The transport of microorganisms into the urinary tract can also be hematogenous and lymphoid (however, this occurs significantly less often). A necessary condition for bacterial cystitis is the adhesion of a large number of bacteria to urothelial cells and their subsequent invasion. The transitional epithelium of the bladder (urotelium) secretes and releases a mucopolysaccharide substance to the surface, forming a protective layer [7,8,9].

The latter acts as an anti-adhesion factor. Adhesion of microorganisms to uropithelial cells is possible due to destruction or alteration of protective mulopolysaccharide layer, which may be due to constitutional peculiarities of mucins, disruption of blood circulation in wall of bladder, increase of receptors for bacterial adhesion in cell membranes. Instrumental interventions can cause damage to the bladder wall to reduce resistance to bacterial invasion. Women mostly suffer from cystitis, which is related to the anatomical and hormonal characteristics of their bodies [4,5,6].

Throughout their lives, 20-25% of women experience acute cystitis, one in three of them develops a relapse of the disease within a year, and 10% develop a relapse of the disease into a chronic form. Cystitis often develops in men aged 25-30, and also in women over 55, i.e. after menopause. Up to 60% of urologist visits are related to acute or recurrent cystitis [2, 7].

Infectious (bacterial); non-infectious (medicinal, radiation, toxic, chemical, allergic and others). Cystitis is divided into acute cystitis and chronic cystitis (recurrent cystitis), which are divided into a phase of exacerbation and a phase of remission. There are also primary (uncomplicated) cystitis (an independent disease that occurs against the background of conventional-normal urination in women aged 18-45 without concomitant diseases) and secondary (complicated) cystitis in all others, that is, it occurs against the background of urodynamic disorders as a complication

of another disease: tuberculosis, stone, bladder tumor, when there is an increased risk of no effect from the empirically prescribed antibacterial therapy [9,10,11].

Morphological changes may include catarrhal, ulcerative-fibrinous, hemorrhagic, gangrenous, and interstitial cysts. The latter is considered an independent disease in which the phases of the course of the inflammatory process change, leading to pronounced pain in the area of the bladder, gradual decrease in its capacity, up to wrinkling, and increasing diurisy [4,8,9].

Acute cystitis is characterized by a sharp onset. In the presence of two exacerbations within half a year or three - within a year, it is said to be chronic recurrent cystitis. The completion of diuretic diaries is an important stage in the examination of patients who have been suffering from dysuria for a long time [7,8,9].

A patient's severe condition with signs of intoxication (tachycardia, vomiting, fever) is typically characteristic of acute cystitis with ulcerative fibrinous and gangrenous forms, which occur in patients with severe immunodeficiency, as well as complicated by pyelonephritis. Vaginal pain is characteristic of female genital diseases (vaginitis, adnexitis, salpingitis, etc.) [2,10,11,12].

In cases of uncomplicated cystitis, complicated or recurrent cystitis, it is recommended to perform a general urinalysis. Pronounced leukocyturia, bacteriuria, mild proteinuria, and hematuria are not always of varying severity. In acute uncomplicated cystitis, urine general analysis can be performed using test strips as an alternative to urine general analysis [1,9].

It is not recommended to conduct urine analysis using test strips in case of complicated or recurrent cystitis.Urine bacteriological studies are not recommended for uncomplicated cysts [9,10,11].

Since E. coli is the causative agent in 85-90% of cases, other gram-negative bacteria are less common. Empirical therapy is highly effective. If the empirical therapy is ineffective, urine bacteriological analysis with determination of uropathogen sensitivity to antibacterial drugs significantly facilitates the choice of the next drug. Urine is bacteriologically examined to determine the pathogen and its sensitivity to antibacterial drugs [7,8,9,12,13].

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