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ETIOPATHOGENESIS AND MODERN LABORATORY DIAGNOSIS OF PROSTATITIS

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Prostatitis, one of the most common nosologies in urological practice, is the most common urological disease in men under 50 years of age: 35-50% of men have reported lower urinary tract symptoms (LUTS) characteristic of prostatitis at least once in their lifetime. In 8-11% of Europeans and 3-16% of Americans, prostatitis is a recurrent disease. The prevalence of chronic prostatitis (CP), according to Russian authors, is even higher - up to 40% [1,2,3].

Keywords: prostate, prostatitis, ejaculation, recurrent disease, urinary tract, men;

Prostatitis is characterized by pain of various localizations and urinary disorders: weakening of the urine stream, pollakiuria, nicturia. A recent analysis of the international database on prostatitis showed that pain is localized in the perineum (63%), testicles (58%), possible during ejaculation (45%), pubic area (42%) and penile tip (32%); in almost half of cases (43%) there is dysuria [5,6,7].
Overall, 50-60% of patients with CP complain of various urinary problems. Shortening of the duration of sexual intercourse and premature ejaculation (PE) are not uncommon in CP. Prostatitis as a disease of one of the additional sex glands,

according to WHO classification, can cause male infertility. On the background of CP there is a significant decrease in the quality of life, comparable to angina pectoris, myocardial infarction, Crohn's disease and DM. Decrease in quality of life is proportional to intensity of pain, number of its localizations and frequency of exacerbations; the most unpleasant sensations are pain at ejaculation. Independent factors of quality-of-life deterioration in CP are PE, ED and infertility [7,8,9].

CP has been a subject of debate for many years. According to numerous studies, it has been established that the activity of the inflammatory process in the prostate weakly correlates with the clinical picture of the disease. Active inflammation in the prostate, accompanied by an increase in the number of leukocytes in prostate secretion and semen, may not be accompanied by clinical manifestations.

Conversely, marked clinical symptoms of CP may be observed in the absence of any inflammatory process in the gland. The currently used classification of prostatitis was proposed by the American National Institute of Health and the National Institute of Diabetes, Digestion and Kidney Disease (NIH NIDDK) in 1995 (NIDDK Workshop Committee 1995). It is based on the distinction of all forms of prostatitis depending on the presence or absence of a bacterial agent, the presence of leukocytes in the prostate secretion, and clinical manifestations [4,5,6]. Depending on the duration of symptoms, prostatitis is characterized as acute or chronic if symptoms persist for at least 3 months. According to this classification, there are four categories of prostatitis: acute bacterial (category I), chronic bacterial (category II), chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS; category III), and asymptomatic prostatitis (category IV). Each of these categories is characterized by a distinct spectrum of SNMPs.

Penetration of microorganisms into the prostate in category I, II and IV CP may occur ascending through the urethra or transrectally with the lymphatic flow. Recurrences of infectious inflammatory CP may be due to persistence of microorganisms in the gland, sexual transmission and reinfection from the GI tract. There is evidence for the pathogenicity of E. coli and its ability to overcome anatomical and immune barriers in healthy young men without urologic risk factors by altering the phylogenetic background and accumulating a repertoire of extraintestinal pathogenic virulent genes; with antibiotic resistance providing a

small additional advantage for E. coli strains in these healthy outpatients. The antiseptic properties of prostate secretion may be an important factor in preventing recurrence [7,8,9].

Risk factors for category I, II and IV CP in men include prostate enlargement and urological interventions such as transrectal prostate biopsy. Digestive disorders in the form of diarrhea and constipation and associated rectal barrier dysfunction have been considered by some authors as a triggering factor for CP.

The absence of detectable microorganisms in category IIIA CP does not guarantee its non-infectious nature - some intracellular persistent microorganisms (C. trachomatis, U. urealyticum, M. hominis, etc.) and anaerobes cannot be detected by standard culture. It should be noted that antibiotic therapy in half of cases is effective in eliminating inflammation and in "non-infectious" CP. The question of whether inflammatory and non-inflammatory types of CKD/CCTB (categories IIIA and IIIB) should not be considered different diseases, but one, but with different manifestations, has not yet been resolved. Recently, it has been shown to be possible to distinguish between types IIIA and IIIB by measuring concentrations of pro-inflammatory IL-8 in semen. According to a recent Chinese study (more than 1500 subjects in two cohorts), the risk factors for CP/CTB are dietary and lifestyle characteristics: night work, smoking, alcohol consumption, spicy food, low fluid intake and long interval between urination, excessive sexual activity, artificial prolongation of sexual intercourse, and stress [1,2,3,4,5].

Laboratory tests for prostatitis, according to EAU recommendations include:

-general urinalysis and urine culture;

-exclusion of sexually transmitted infections (STIs) - C. trachomatis, U. urealyticum, M. hominis, etc.;

-uroflowmetry and determination of Vres;

-four-cup test (according to Meares and Stamey);

-microscopy of the prostate secretion or the first portion of urine obtained after prostate massage;

-culture of prostate secretion, urine after prostate massage and/or semen [6,7,8,9].

An isolated bacterial strain is considered to be the causative agent if the concentration of colony-forming units in prostate secretion or in urine obtained

after prostate massage is 10 times or more greater than the concentration in the middle or first urine sample [11,12,13].

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