Comparative analysis of microbiological spectrum of prostatic secretion determined by the routine and extended microbiological analysis in chronic bacterial prostatitis.

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Introduction. The major causative pathogens of chronic bacterial prostatitis (CBP) are Enterobacteria. The important role of gram-positive bacteria, particular, coagulase-negative staphylococcus (CNS) has been reported in the recent years. The causative role of the other microorganisms and its involvement in CBP pathogenesis remains unclear.

Materials and methods. Bacteriological examination of urine in 170 men with CBP (mean age was 30.9±5.8) prior to starting of antibacterial treatment was performed. Obstruction was due to stones (60.6%) and ureteropelvic junction obstruction (39.6%). The duration of the disease was 3.5 ± 1.5 years. Bacteriological urine analysis using standard (blood agar and MacConkey agar) and extended amount of the 9 mediums (Mac Conkey, HiCrome Candida Differential Agar, HiCrome Enterococcus Agar, HiCrome Aureus Agar Base, blood agar, made on the basis of Mueller Hinton Agar with addition of sheep erythrocytes) was performed. For nonclostridial anaerobes isolation medium Blaurokka, Shaedler Agar and broth, Bacteroides Bile Esculinum Agar were used.

Results. Using the standard mediums we isolated 72 types of microorganisms in prostatic secretion, while using extended amount of mediums we determined 851 types ($p<0.05$) (table.1).

In all cases of CBP the extended microbiological studies detected mixed bacterial infection with predominance of CNS and other gram-negative bacteria and nonclostridial anaerobes (64.7%). In 33.4% cases combination of Enterobacteria and nonclostridial anaerobes was detected, while combinations of the other types of gram-positive bacteria with nonclostridial anaerobes were found less frequently (11.2% cases). The proportion of the Enterobacteria was low (16.4%), and they were isolated in combinations with the other types bacteria, frequently with CNS and the other types of gram-positive bacteria (8.2%). The mean prostatic secretion bacteria level for non-clostridial anaerobes was 10^3CFU/ml, and CNS was 10^3CFU/ml.

Conclusion. In prostatic secretion of patients with CBP non-clostridial and the different species of gram-positive bacteria and/or CNS dominate, while proportion of the Enterobacteria is low. In all cases bacteria were isolated in associations with the other bacteria. The mean prostatic secretion bacteria level for recognized pathogens (Enterobacteria) is lower, than for non-clostridial anaerobes. Debated question remain about causative pathogens of inflammatory process.

Table. 1.

Microorganisms	Types of microorganisms (%)	
	Standard mediums	Extended mediums
Enterobacteriaceae	16.4	16.4
Coagulase-negative staphylococci (CNS)	55.9	82.9
Corynebacterium sp.	12.3	70.6
E.faecalis	35.9	41.8
C.albicans	1.2	2.3
C.krusei	0	3.0
Nonclostridial-anaerobic bacteria	0	100.0