microbial aetiology of prostatitis and urethritis

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This study was carried on 72 patients attending the Skin and VenerealOutpatient Clinic in Communicable Diseases Research and Training Center (CDRT)of Faculty of Medicine Suez-Canal University and some private Venereal Clinics inSuez through 10 months starting from October 1992 to August 1993. Their ageranged from 28 to 58 years and they complaining from urinary, sexual or infertilityproblems. These patients were clinically diagnosed as chronic prostatitis and theywere subjected to the following:-A- Urethral swabbing for:1. Detection of C.trachomatis antigen in the first 61 cases by the followingmethods:I) Direct immunofluorescent (DlMF).2) Dot enzyme linked immunosorbent assay (Dot ELISA).3) Tissue culture on Buffalo green monkey (BGM) cell line.4) Enzyme linked immunosorbent assay (ELISA) on tissue culture.11. Culturing the urethral samples on Mueller Hinton and chocolate agar plateswhich were anaerobically incubated in candle jar for 48 hours at 37°C forisolation of N.gonorrhea if present.III. Detection of U. urealyticum by culturing the urethral samples on ureaplasmaagar plates and broth tubes. The cultured plates were anaerobically incubatedin candle jar at 37°C up to 8 days, while the cultured broth tubes wereaerobically incubated at 37°C for 2-5 days.B- Prostatic massage for isolation and identification of different microbial agentsin cases of chronic prostatitis. The expressed prostatic secretions weresubjected to the following:I. Microscopic examination of:I) Fresh smear for pus cells, RBCs and parasites.2) Stained slides with Gram and Ziehl-Neelson stains.II. Direct detection of C.trachomatis antigen in the first 61 cases by DIMF test.III.Culture on blood, MacConkey, chocolate, Mueller Hinton and Sabaraud’s agarplates. The cultured plates were incubated according to the requirements ofthe different suspected organisms.IV. Detection of M.hominis was carried out by culturing the samples onmycoplasma agar plates and broth tubes. The cultured plates wereanaerobically incubated in candle jar at 37°C up to 8 days, while the culturedbroth tubes were aerobically incubated at 37°C for 2-5 days.The isolated mycoplasmas were identified and serologically classified bygrowth inhibition test.The results of the present study showed that:53 cases (73.6%) out of 72 were suffering from urinary symptoms, 51 cases(70.8%) had sexual symptoms and 17 (23.6%) were infertile.No bacteria were isolated from the urethra.Out of 72 cultured expressed prostatic secretions 28 samples gave bacterialgrowth within 48 hours. So, the incidence of chronic bacterial prostatitis inthis study was 38.9%. Out of these 28 samples; 20 (71.4%) were found tobe Gram positive cocci, 6 (21.4 %) Gram negative bacilli and 2 cases (7.1 %)had both.Out of these 22 Gram positive cocci cases: Staph.epidermidis, Staph.aureusand Strept.fecalis were detected in 16 (72.7%), 2

(9.1 %) and 4 (18.2 %) casesrespectively. Out of 8 Gram negative bacilli cases: Klebsiella pneumoniae,E. coli and Proteus mirabilis were detected in 2 (25 %), 4 (50%) and 2 (25%)cases respectively.In this study it was found that the chronic bacterial prostatitis wasindependent on the presence of urinary and/or sexual symptoms and thenumber of pus cells in the expressed prostatic secretions of these patients wasmore higher than their number in nonbacterial cases.As regards the effect of chronic bacterial prostatitis on fertility, in this studyit was found that this type of infection had no effect on fertility.Out of 72 cases 1 case only (1.4 %) had prostatic candida infection.Out of 72 cases under this study, 31 (43. I %) had urethral U.urealyticum, 48(66.6%) had prostatic M.hominis and 20 cases (27.8%) had combinedinfection with both. Urethral U.urealyticum and prostatic M.hominis.All the isolated prostatic mycoplasmas were M.hominis.In this study it was found that the urethral U.urealyticum and prostaticM.hominis infections were independent on the presence of urinary and/orsexual symptoms. Also, the number of pus cells in the expressed prostaticsecretions of these patients was independent on the presence or absence ofprostatic mycoplasmal infection.As regards the role of genital mycoplasmal infection on fertility, in this studyit was found that the urethral U.urealyticum and prostatic M.hominis had noeffect on fertility.Mixed prostatic infection by bacteria and M. hominis was detected in 18 (25%)out of 72 studied cases, in which Staph.epidermidis was the most commonisolated bacteria.Out of 61 cases; 25 (41%) had urethral C.trachomatis; 16(64%) cases out ofthese 25 had also prostatic chlamydial infection as diagnosed by the DIMFtest done on their urethral swabs and the expressed prostatic secretions. Nocases were detected to have chlamydial prostatitis without having chlamydialurethritis.In this study it was found that the urethral and prostatic chlamydial infectionswere independent on the presence of urinary and/or sexual symptoms and thenumber of pus cells in the expressed prostatic secretions of chlamydial caseswas independent on this type of prostatic infection. Also, it was found thatchlamydial urethritis and prostatitis had no effect on fertility.The tissue culture of the collected urethral samples on the BGM cell linewhich was done on two setting; the first set included 44 selected samples (25positive and 19 negative chlamydial cases as diagnosed previously by DIMFtest), collected and stored 8 months age at -70°C gave negative results, whilethe second set of some recently collected samples along one month beforeculture gave positive and negative results which was coincided with theresults of DIMF test done on the same samples. The negative results of thefirst set tissue culturt: may be due to the prolonged storage of samples (8months at -70°C). So, under certain circumstances the DIMF test and tissueculture were equal in sensitivity and specificity (100%).In this study both dot ELISA and ELISA tests gave negative results, it maybe due to the prolonged storage of samples (8 months at -70°C).from this study it could be concluded that the DIMF test is the best method used for detection of chlamydial antigen. For diagnosis of chlamydialurethritis the sensitivity and specificity of DIMF test were 100% and 80%respectively. -’(While in chlamydial prostatitis they were 64% and 100% respectively., So, we recommended the use of freshly collected urethral samples (collectedand stored up to one month at -70°C) for detection of C.trachomatis antigen-.=>by dot ELISA, tissue culture and ELISA methods.Urethral infection by U.urealyticum and C.trachomatis was detected in 14(22.9%) out of 61

cases.Prostatic infection by bacteria and C.trachomatis was detected in 9 (14.75%)out of 61 cases, in which Staph.epidermidis was the most common isolatedbacteria. While, prostatic infection by M.hominis and C.trachomatis wasdetected in 15 (24.5 %) out of 61 cases.