Cryptic bacterial infection in chronic prostatitis: diagnostic and therapeutic implications.

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Source

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Abstract

Chronic idiopathic prostatitis, sometimes called prostatodynia or abacterial prostatitis, is a commonly diagnosed and poorly treated urological syndrome. Clinically, this condition frustrates the patient and physician due to its chronicity and resistance to therapy. Recent studies suggest that the etiology of chronic idiopathic prostatitis may be of bacterial origin. Three types of provocative data have demonstrated bacterial presence from prostatic specimens (tissue and secretions) that were negative by traditional clinical microbiologic tests: (i) presence of bacterial gene sequences in prostatic tissue encoding 16S rRNA and tetracycline resistance (tetM-tetO-tetS); (ii) controlled cultural findings showing coagulase-negative staphylococci as the most common isolates (68%) in prostatodynia (chronic idiopathic prostatitis); and (iii) culture of difficult-to-grow coryneforms in expressed prostatic secretions (EPS) on enriched culture media and direct microscopic observation of these pleomorphic bacteria in EPS. Additionally, earlier experimental studies in a rat model support the concept that antibiotic therapy in chronic bacterial prostatitis may not be due to altered antibiotic pharmacokinetics in the chronically inflamed prostate gland. Rather, ineffective antimicrobial eradication might result from protected bacterial micro-colonies within an infection-induced altered micro-environment deep within the prostate gland. We postulate that extracellular slime substances produced by bacteria that are buried in prostatic tissues could impair host defenses by their anti-phagocytic and anti-chemotactic properties that affect neutrophils as well as anti-proliferative characteristics that affect lymphocytes. These extracellular slime substances could also have cytoprotective properties which can conceal bacteria from otherwise bactericidal levels of antibiotics and lead to recrudescent infections resistant to therapy. Persistence of bacterial antigens might initiate a cascade of cellular immunologic events resulting in chronic inflammation of the prostate gland.

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