Fungal Prostatitis Experience at a Single Institution

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Background The rates of fungal infections have increased substantially in Europe as well as in North America, which necessitates new paradigms in understanding chronic prostatitis symptom complex. Because of the rapidly increasing incidence of serious fungal infections, we have reviewed the prevalence of positive fungal isolates that localize to the prostate at a single institution as well as the current therapeutic regimens and the role of newer antifungal drugs for the treatment of fungal prostatitis.

Material and Methods We evaluated 1,100 patients referred to a tertiary care medial center using the Mycotube and CROMagar Candida systems. The diagnosis was based on the pre and post-prostatic massage urine test as described by Nickel as well as the expressed prostatic secretion (EPS). Urethral swab testing was used to exclude urethral contamination. Levels of interleukin-6 (IL-6) were measured in EPS and/or post-prostatic massage urine as signs of active fungal infection.

Results The prevalence of true fungal prostatitis (defined as fungal isolates only with no bacterial growth) was 13% (147 cases). Classified by species the isolates were as follows: Candida albicans, 48% (71 isolates); Candida glabrata, 24% (35 isolates); Candida tropicalis, 19% (28 isolates); Candida parapsilosis, 7% (10 cases); Candida species not otherwise specified, 2% (3 isolate). The agents of choice were fluconazole and itraconazole. Since response to fluconazole is dose dependent, the data were grouped according to the clinical response when episodes/patients were treated with either 100 or greater than 100 mg/d, by the rate of success (%) and MIC values that ranged from less than or equal to 0.06 to greater than or equal to 64 mg/mL for each group-dosage combination. Analysis of the data indicates a success rate of more than 90% with MICs up to 8 mg/mL and a significantly lower success rate (76% overall) for isolates with MICs of greater than or equal to 16 mg/mL for the 100 mg/d dosage group. The itraconazole data were grouped then by itraconazole plasma level (less than or equal to 0.5 mg/mL and greater than 0.5 mg/mL) and by outcomes and were analyzed in the same manner as the fluconazole data. Regardless of plasma level, a greater than or equal to 81% success rate was associated with MICs of less than or equal to 0.12. Patients with plasma levels of less than or equal to 0.5 mg/mL had a success rate of only 50% when the MIC for the infecting isolate ranged between 0.25 and 0.5 mg/mL and 44% for MICs of more than or equal to 1.0 mg/mL. Generally, most isolates are resistant to ketoconazole (about 70 %). The patients treated with the respective antifungal regimen had a good clinical response with resolution of their symptoms and a decrease in IL-6 levels. Most of the cases were usually iatrogenic resulting from a prolonged course of antibiotic therapy.

Conclusion Fungal prostatitis is a separate entity in the group of prostatitis syndromes that deserves special attention and treatment. Further studies aimed at unraveling the molecular mechanisms underlying antifungal resistance in chronic prostatitis patients are urgently needed.