Place of rpoB-PCR-RFLP and MALDI-TOF-MS in the identification of clinically relevant C. striatum strains in a Tunisian hospital

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Background: C. striatum is frequently encountered in the routine clinical microbiology laboratory. It is a potentially pathogenic microorganism in specific circumstances with the ability to produce outbreaks of nosocomial infections. Identification of this species by biochemical methods remains difficult and several misidentifications have been reported previously.

The aim of this study was to investigate the application of rpoB-PCR-RFLP and MALDI-TOF for the speciation of C. striatum strains.

Methods & Materials: The study was conducted on clinical C. striatum strains collected in a Tunisian hospital between 2007 and 2013 which were identified by MALDI-TOF-MS (Bruker Daltonic, Wissembourg). Biochemical profiles were determined by API Coryne strips. For PCR-RFLP analysis, a 446-pb internal fragment of rpoB was amplified using primers C2700F and C3130R and digested by MseI enzyme.

Results: Among 70 C. striatum strains identified by MALDI-TOF-MS, 38 (54.28%) were designed to other Corynebacterium species by API Coryne Strips: C. maccinleyi (n = 13), Corynebacterium CDC group C (n = 13) and other species (n = 12). The rpoB-PCR-RFLP patterns predicted by using MseI clearly differentiate C. striatum. All strains identified as C. striatum by MALDI-TOF-MS were also assigned to this species by PCR-RFLP; any misidentification using this method has been noted.

Conclusion: Miniaturized phenotypical identification systems are not reliable enough in order to identify a majority of clinical isolates. MALDI-TOF-MS is a rapid, and reliable method. The rpoB-PCR-RFLP was successfully applied to identify C. striatum and it can be used for the reliable identification of this pathogen.

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Prevalence of Mycoplasma hominis and Ureaplasma urealyticum among women infected with HIV in Yaoundé-Cameroon

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Background: The advent of HIV has led to a considerable increase in sexually transmitted infections. Our study focused specifically on Mycoplasma hominis and Ureaplasma urealyticum which are responsible for bacterial vaginosis. The overall objective of this study was to determine the prevalence of Mycoplasma hominis and Ureaplasma urealyticum in women infected with HIV.

Methods & Materials: A cross-sectional and descriptive study was carried out from September 2012 to April 2013 in two health facilities of Yaoundé. Patient’s recruitment took place exclusively in the day hospital of Central hospital and analysis of samples was conducted in the bacteriology laboratory of University teaching hospital. Cervix and vaginal samples were collected using swabs; one for identification, quantification and sensitivity test for mycoplasma using MYCOFAST Evolution 3 kit, and the other for search of other pathogens. The results were entered on the Excel software, and analyzed on the SPSS statistical analysis software.

Results: Among 84 HIV-positive women, the mean age was 37 years. Most of women (71.4%) were infected at least by one mycoplasma. Married women were more infected and the majority of women do not have a reproductive history, hence 9.5% of women had an history of infection by Chlamydia trachomatis.

Whatever the species isolated, co infection with Mycoplasma hominis accounted for 12%. Both were involved in 58% of cases. Whatever the species isolated, co infection with Gardnerella vaginalis was the most frequent (60.71%), followed by Candida albicans (8.71%). All of the strains were sensitive to josamycin. Cyclins were more active (68.33%) than fluoroquinolones (8.71%). All of the strains were sensitive to josamycin and pristinamycin. Cyclins were more active (68.33%) than fluoroquinolones (ofloxacin 20% and ciprofloxacin 18.33%). No significant association was found between CD4 counts and the presence of mycoplasmas in HIV-positive women.

Conclusion: Research and treatment of these germs could help improve the lives of HIV-positive women.

We suggest to health policy planners in Cameroon, to establish a program of gynecologic management of HIV positive women, with low cost of gynecologic analysis.

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