

Abstract

Experience with HB&L Uroquattro Instrument for Rapid Diagnosis of Urinary Tract Infections in Ambulatory Patients [†]

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Abstract: Urinary tract infections (UTIs) are one of the most common community and hospital-acquired infections. Rapid diagnosis and adequate etiological therapy are factors with direct impacts on the morbidity and mortality associated with these infections. The aim of this study was to evaluate the HB&L Uroquattro instrument (ALIFAX, Italy) and the Residual Antimicrobial Activity test (RAA) for the rapid and correct diagnosis of UTIs in ambulatory patients in Varna city, Bulgaria during a seven-month period (October 2020–April 2021). Materials and methods: A total of 1620 urine samples, collected prospectively from 842 ambulatory patients with symptoms of UTIs, were studied. All patients reported information about recent antimicrobial treatment. All samples were screened for bacterial growth using a 4-h protocol and were tested for RAA by HB&L Uroquattro. Simultaneously, the samples were inoculated on blood agar, CLED, CPS, and McConkey agar plates. Results: A total of 343 urine samples (21.2%) were positive for bacterial growth by the rapid screening method. The standard cultural method was positive in 22% (n = 352). RAA was detected in 5.6% (n = 91). A total of 113 patients (13.4%) gave information for therapy with antimicrobial agents or substances with potential antimicrobial activity. Among the samples that demonstrated positive RAA, 69.2% (n = 63) were positive for bacterial growth and 30.7% (n = 28) were negative. Conclusion: A very good correlation between the results from the automated HB&L Uroquattro instrument and those from the traditional cultural method was found. The RAA positive results were detected in patients, receiving antimicrobial treatment. The RAA test result is of great value for the correct interpretation of the culture test and to help to avoid the reporting of false negative results.

Keywords: urinary tract infections; HB&L Uroquattro; residual antimicrobial activity

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