

Urine Antigen Tests in the Etiological Diagnosis of Community Acquired Pneumonia - Our Experience

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ABSTRACT

Introduction: European, British and American guidelines for diagnosis and treatment of community-acquired pneumonia (CAP), recommend the use of immunochromatographic urine antigen tests for *Streptococcus pneumoniae* and *Legionella* spp., for all patients with moderate to severe, i.e., very severe CAP.

Objective: Evaluation of the efficiency of the urine antigen tests in the etiological diagnosis of community acquired pneumonia in our conditions.

Materials & Methods: It has been tested non concentrated urine of 18 patients with clinically and radiologically confirmed diagnosis of CAP, hospitalized in the Clinic of Pulmonology, Clinical Center of Serbia, using immunochromatographic Binax NOW urine antigen tests for *Streptococcus pneumoniae* and *Legionella* spp. Testing was done on the first day after admission to the hospital. In all patients, bacteriological tests of sputum was done. It was determined the specificity, sensitivity and diagnostic accuracy (efficiency) of the tests.

Results and Discussion: The urine antigen test for *Streptococcus pneumoniae* was positive in 4 (27%) of non concentrated urine sample of patients. Test for *Legionella* spp. was negative in all tested samples. Bacteriological examination of sputum shows that *Streptococcus pneumoniae* was isolated in 5 (28%) patients, while one patient has isolated *Pseudomonas aeruginosa*. The sensitivity of the urine assay for antigen *Streptococcus pneumoniae*, was 60% and the specificity was 92%. The efficiency of the test was 94%. The specificity of the test for *Legionella* spp. was 100%. The sensitivity of the test was not possible to reliably estimate because of *Legionella* infection is not confirmed in any of the respondents. The efficiency of the test was 100%.

Conclusion: Due to the speed and ease of execution and good specificity of these tests, justified their use in everyday work for better orientation and selection of adequate therapy. On the other hand, the relatively low sensitivity of immunochromatographic urine antigen tests, especially for *Streptococcus pneumoniae*, as well as their high economic price, call into question the justification for the use of these tests in daily clinical practice. Due to the limited number of available tests in our conditions and a relatively small number of tested subjects, additional tests are needed for adequate assessment.

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