

The utility of rapid antigen detection testing for the diagnosis of streptococcal pharyngitis in low-resource settings

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Abstract

Objectives: To evaluate the utility of rapid antigen detection testing (RADT) for the diagnosis of group A streptococcal (GAS) pharyngitis in pediatric outpatient clinics in four countries with varied socioeconomic and geographic profiles.

Methods: We prospectively evaluated the utility of a commercial RADT in children aged 2–12 years presenting with symptoms of pharyngitis to urban outpatient clinics in Brazil, Croatia, Egypt, and Latvia between August 2001 and December 2005. We compared the performance of the RADT to culture using diagnostic and agreement statistics, including sensitivity, specificity, and positive and negative predictive values. The Centor scores for GAS diagnosis were used to assess the potential effect of spectrum bias on RADT results.

Results: Two thousand four hundred and seventy-two children were enrolled at four sites. The prevalence of GAS by throat culture varied by country (range 24.5–39.4%) and by RADT (range 23.9–41.8%). Compared to culture, RADT sensitivity ranged from 72.4% to 91.8% and specificity ranged from 85.7% to 96.4%. The positive predictive value ranged from 67.9% to 88.6% and negative predictive value ranged from 88.1% to 95.7%.
Conclusions: In limited-resource regions where microbiological diagnosis is not feasible or practical, RADTs should be considered an option that can be performed in a clinic and provide timely results.