Rapid test for growth and determination of antibiotic sensitivity of group B streptococcus (GBS) in antepartum women
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ABSTRACT

OBJECTIVE: We determined if a new method of rapidly growing GBS in 6 hours could also determine antibiotic sensitivities in a shorter period compared to standard cultures.

STUDY DESIGN: Women were screened between 35 to 37 weeks gestation. Vaginal-rectal swabs were collected in Stuart’s transport medium. Swabs were then inoculated on a nitrocefin membrane (NCM) that had been coated previously with polyclonal rabbit antibody against GBS in the presence or absence of clindamycin. At six hours, the NCM was removed from the sheep blood agar medium, and horseradish-peroxidase conjugate polyclonal antibody against GBS was added. An additional swab from each patient was cultured by traditional methods for 48-72 hours and those positive for GBS were then tested for resistance/sensitivity to clindamycin. A final control consisted of sending a separate swab from each patient to a commercial lab.

RESULTS: 124 patient samples were screened, of which 33 were positive for GBS by the rapid test (97.0% concordance with traditional culture). Of these 33 positive samples, 10 were resistant to clindamycin, which agreed 100% with traditional culture. Results of the both the rapid and traditional culture showed 100% concordance with sensitivity or resistance to clindamycin when compared with commercial lab results.

CONCLUSION: This new NCM assay offers a rapid and unique method for both detection and determination of antibiotic sensitivities for GBS; thus, improving the targeting of antibiotic prophylaxis for GBS colonization.

REFERENCES: