CDC guidelines for prevention of perinatal group B Streptococcus (GBS) infections (1), which recommended universal screening and intrapartum antibiotic prophylaxis (IAP) for pregnant women colonized with GBS or with risk factors that increased intrapartum transmission of GBS, decreased the rate of early-onset (EO) GBS disease to approximately 0.4 per 1,000 live births (2). Revision of these guidelines (3) expanded recommendations for laboratory identification of GBS and called for routine inducible clindamycin (iCLI) resistance testing for GBS isolates from penicillin-allergic patients. Based on the importance of universal prenatal GBS screening and the continued rise in erythromycin (ERY)- and CLI-resistant GBS, we sought to discover (i) the GBS colonization rate in our population of pregnant women and (ii) the ERY-CLI resistance rates in our population of GBS-infected women.

As part of routine prenatal care, patients presenting to the clinics of LSU Health—Shreveport were screened for GBS carriage by standard culture methods, including selective broth, in accordance with recommended guidelines (3). ERY-CLI susceptibility testing was performed by disk diffusion according to CLSI guidelines (4). The double-disk diffusion test (D-test) was used to detect iCLI. Between 2006 and 2010, 2,042 (35%) of 5,842 screened patients were GBS positive. In July 2009, our laboratory began routine susceptibility testing of GBS isolates. Between 1 July 2009 and 31 December 2010, 544 GBS isolates were identified, with 283 (52%) and 178 (33%) demonstrating ERY and CLI resistance, respectively. Of the 178 CLI-resistant isolates, 53 were constitutively resistant and 125 were inducibly resistant. Surprisingly, our resistance rates were higher than those in other publications (5–8), which reported ERY and CLI resistance rates as high as 38% and 21%, respectively. The highest reported rate of CLI resistance was 11%. Only two recent studies have reported similar rates (9, 10). A set of 200 isolates collected from vaginorectal specimens (9) demonstrated rates of resistance of 54% for ERY, 25% for CLI, and 8% for iCLI. A survey (10) of 679 prenatal screening isolates found rates of 51% for ERY, 38% for CLI, and 11% for iCLI. Neither study reported iCLI rates similar to ours (25%).

Our study adds to the collective data regarding GBS and iCLI resistance, which underscore the need for strict adherence to CDC guidelines for the prevention of EO-GBS disease. Prenatal care should always include a GBS screen at 35 to 37 weeks of gestation and for women in preterm labor. Penicillin should be used for IAP, except for women who are at risk for anaphylaxis. Cefazolin should be used in patients with a low risk of anaphylaxis. Although clindamycin is recommended for women at high risk for anaphylaxis, it should not be used unless susceptibility testing has been performed, including iCLI testing. Vancomycin is the recommended therapy for patients at high risk for anaphylaxis and a CLI-resistant GBS isolate. Good communication between the laboratory and obstetrical service must exist, and an institutional protocol should be in place to identify patients for whom GBS isolates require antibiotic testing. Continued education about the need for prenatal GBS screening and antibiotic susceptibility testing should lead to a further decrease in the incidence of EO-GBS disease.

REFERENCES