ABSTRACT

Background: Empirical therapy of severe group B streptococcal (GBS) infections, started before availability of susceptibility results, and intrapartum chemoprophylaxis to prevent early neonatal GBS disease are based on accurate susceptibility surveillance data. The aim of this report is to determine the rate of erythromycin (ERY) and clindamycin (CLIND) resistance among recently isolated GBS isolates.

Methods: A total of 58 GBS isolates from adult and neonatal samples were identified in the period January 2005-June 2006, and their susceptibility to ERY and CLIND was determined with the Etest method (AB Biodisk, Solna, Sweden) following a CLSI protocol (CLSI M100-S16, CLSI, Vol 26 (3), Wayne, PA, USA, 2006).

RESULTS

- **Antimicrobial susceptibility profile**: An antimicrobial susceptibility profile of 178 clinical isolates of GBS (January 2005 - June 2006)

- **Distribution of macrolide resistance phenotypes among 58 isolates of GBS resistant to erythromycin**

- **Erythromycin resistance & evolution**

- **Distribution of macrolide resistance genes within theerm**

- **DISCUSSION & CONCLUSION**

- **As in the different surveillance studies of GBS antimicrobial susceptibilities, all isolates remain fully susceptible to penicillin.**

- **The increase of resistance to macrolides becomes a relevant problem.** In the 1990s, ERY-resistant in Belgium from 1990 to 2006 increased from 30% to 43% in adults with invasive disease and from 30% to 80% in neonatal GBS disease.

- **In this study, by comparison to a Belgian previous surveillance (2001-2003), no more difference was observed in the rate of ERY-resistant among all adults.** As previously reported in Belgium and in different European countries, most of ERY-R isolates had a MLS phenotype.

- **The detection of MLS-R is important: the simple and reliable double-disk diffusion test is strongly recommended.** To this end, a new PCR test is available, based on the detection of theerm gene. The detection of MLS-R is important: the simple and reliable double-disk diffusion test is strongly recommended.

- **In this study, by comparison to a Belgian previous surveillance (2001-2003), no more difference was observed in the rate of ERY-resistant among all adults.** As previously reported in Belgium and in different European countries, most of ERY-R isolates had a MLS phenotype. More recently, neonatal isolates have demonstrated the same level of resistance to erythromycin as adult isolates. And, serotypes IV, V, VI and VII are more resistant to erythromycin (p<0.001).

- **Detection of resistance genes**

- **DNA extraction using QIAamp DNA Mini Kit (Qiagen)**

- **PCR amplifications with specific primers enabling detection of target genes**

- **Protocol of PCR using gene specific primers for known macrolide resistance markers**

- **OBJECTIVES**

- To monitor penicillin susceptibility among GBS recently isolated in Belgium from neonates with neonatal infections.

- To determine the rate of erythromycin (ERY) and clindamycin (CLIND) resistance (R) among the same invasive isolates.

- To assess the distribution of macrolide resistance phenotypes and to identify the resistance genes,erm,ermTR and mef, among the erythromycin-resistant isolates.

- **REFERENCES**

- Prevention of penitential group B streptococcal disease. Revised guidelines from CDC. MMWR 2002;51 (RR-11), 1-22


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