EDITORIAL

Maternal Colonization and Neonatal Group B Streptococcal Infection: Time to Universal Screening and Intrapartum Chemoprophylaxis in Taiwan?

Group B streptococcal (GBS) disease is an important and potentially life-threatening disease in newborns. Since 1970s, extensive research has provided important information on epidemiology, immunity, and prevention, resulting in a decline in incidence and mortality rates.

GBS colonize the vaginal and gastrointestinal tracts in healthy women, with carriage rates ranging from 6.5% to 43.6% in the United States and other countries.1,2 Neonates can acquire the organism vertically in utero or during delivery from the maternal genital tract. Although the transmission rate from mothers colonized with GBS to neonates delivered vaginally ranged from 40% to 70% (approximately 50%),3 only 1–2% of colonized neonates go on to develop invasive GBS disease.4

However, Taiwan has very limited data on the epidemiological characteristics of maternal GBS colonization and neonatal GBS diseases. In this issue of Pediatrics and Neonatology, Yu et al5 reported that the maternal colonization of GBS was around 20% in Taiwan through a prospective study in six hospitals and that the neonatal GBS infection was 1 per 1000 live births. If transmission rate from mothers colonized with GBS to neonates delivered vaginally ranged from 40% to 70% (approximately 50%),3 only 1–2% of colonized neonates go on to have neonatal GBS infection in Taiwan. The figure is similar to that of Western countries before intrapartum chemoprophylaxis.

The incidence of early-onset GBS infection had dropped by 50–85% in the United States6 since the implementation of intrapartum antibiotic prophylaxis in 1996.7 As all of us know, the crude birth rate in Taiwan decreased to 8 per 1000 in 2009, the second lowest in the world. Taiwan’s infant mortality rate was 4.1 per 1000 live births in 2009,8 which was acceptable but much higher than the lowest in the world (1.8 per 1000 live births in both Hong Kong and Luxembourg) and the second lowest (2.1 per 1000 live births in Singapore).9 Because Taiwan’s birth rate is decreasing, we have to try our best to decrease the newborn and infant mortality rate. To achieve this, decreasing newborn GBS infection is one of the strategies. At present, there is no standard protocol for GBS screening of the pregnant women in Taiwan. No universal screening of maternal GBS will make intrapartum chemoprophylaxis incomplete although we know many of the hospitals in Taiwan do the maternal GBS screening.

If we would like to decrease newborn GBS infection in Taiwan, it is necessary to perform universal screening of pregnant women for rectovaginal GBS colonization at 35–37 weeks’ gestation to optimize the identification of women who should receive intrapartum antibiotic prophylaxis. Universal screening of maternal GBS will make clear the nationwide GBS colonization rate of pregnant women in Taiwan, will let obstetrician give appropriate intrapartum chemoprophylaxis, and will let pediatricians know which newborn needs special observation or treatment for GBS diseases to reduce the incidence, morbidity, and mortality of neonate GBS diseases. We hope that the health authority in Taiwan will set up its strategy to decrease the incidence of early-onset neonatal GBS disease in the near future.

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References


