Background and study aims

Group B streptococcal (GBS) infection remains one of the most significant causes of late-onset sepsis and meningitis (LOGBS). However, risk factors of LOGBS are not fully understood, and prevention strategies have not yet been identified.

Methods

We conducted a systematic review (Medline, Embase and Cochrane Library databases) on previously described clinical risk factors (antenatal colonisation, preterm birth, low birth weight, multiple-gestation pregnancy, maternal age <20 years, male infant sex, maternal intrapartum fever, prolonged rupture of membranes and LOGBS) with no language or date restrictions. The cohort studies were surveillance studies conducted to estimate the national or regional incidence of iGBS disease. Data from the regional or national population for the same period were used as a denominator.

Results

We included 27 articles (22 cohort and 5 case-control studies), including 5315 cases of LOGBS. The odds ratio (OR) of LOGBS was 5.66 (95% confidence interval [CI], 4.43-7.22) in preterm infants, 6.73 (95% CI, 4.68-9.67) in LBW infants, 2.67 (95% CI, 2.07-3.45) in infants born to mothers colonised with GBS, and 8.01 (95% CI, 5.19-12.38) in multiple-gestation births. PROM and intrapartum fever were not associated with an increased risk of LOGBS with OR of 1.49 (95% CI, 0.94-2.36) and 1.06 (95% CI, 0.14-8.18), respectively.

Conclusions

Prematurity/LBW and maternal colonisation with GBS are major risk factors for LOGBS. Association of multiple-gestation pregnancy with raised risk of LOGBS is probably confounded by prematurity/LBW. Future GBS vaccine studies should try to establish the optimal time for vaccination during pregnancy in order to protect preterm infants.