Evidence Update

Maternal Health Series *January 2005*

In caesarean section, do antibiotics reduce complications caused by infections?

In both elective and emergency caesarean section, prophylactic antibiotics markedly reduce wound infection, fever, endometritis, and serious infectious morbidity or death.

Inclusion criteria

Studies:

Randomized and quasi-randomized trials comparing antibiotic prophylaxis to no antibiotics for caesarean section.

Participants:

Women undergoing elective and non-elective caesarean delivery. Rupture of membranes for more than six hours or the presence of labour were used to differentiate a non-elective caesarean delivery from an elective procedure.

Intervention:

Any prophylactic antibiotic regimen administered for caesarean delivery compared with placebo or no treatment.

Outcomes:

Serious complications caused by infections; fever; wound infection; endometritis; urinary tract infection.

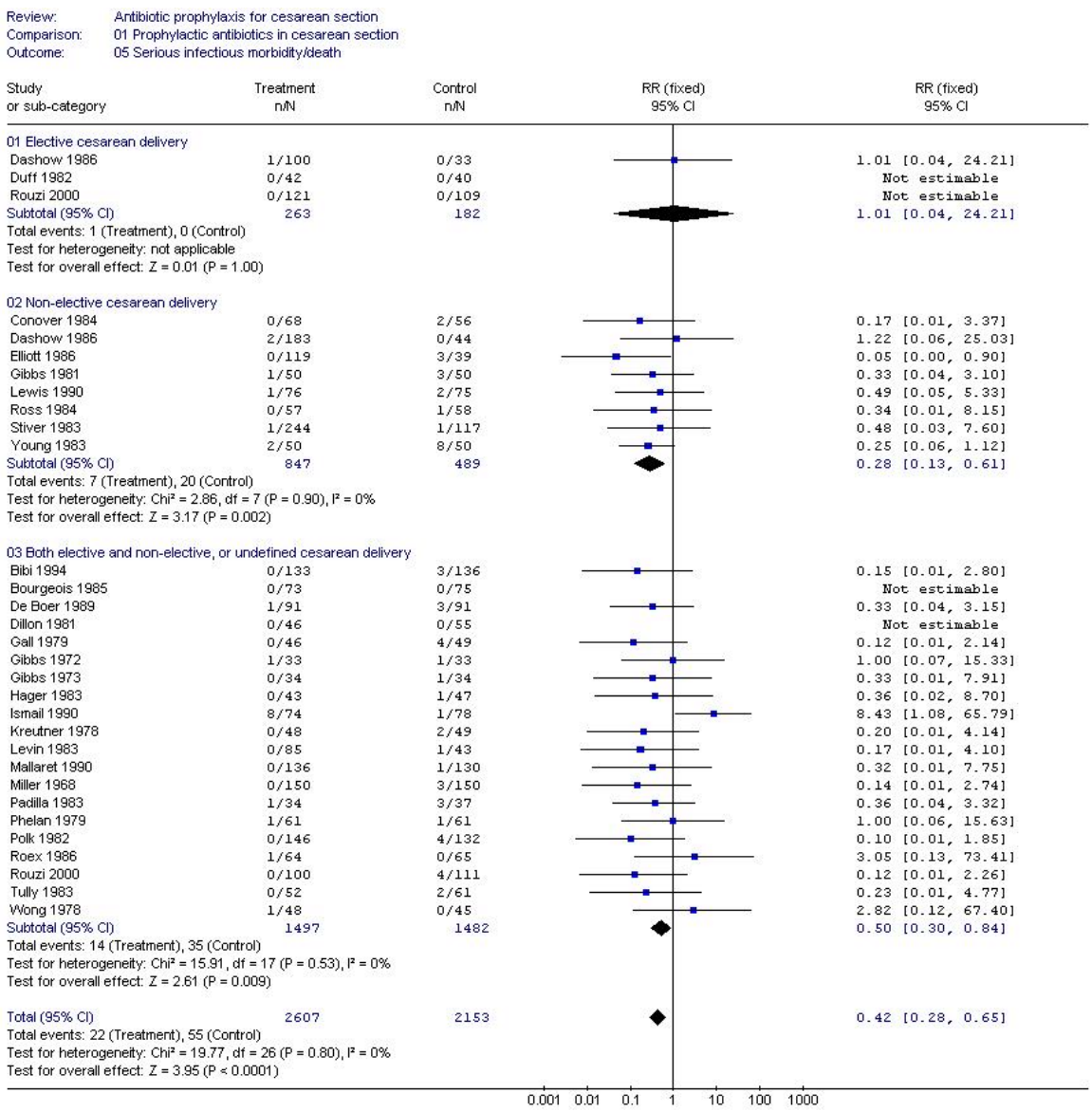
Results

81 trials included (n = 11,957). In both elective and emergency caesarean section, antibiotic prophylaxis reduces:

- Wound infection (relative risk 0.41, 95% confidence interval 0.35 to 0.48).
- Fever (RR 0.45, 95% CI 0.39 to 0.52).
- Endometritis (RR 0.39, 95% CI 0.34 to 0.43).
- Urinary tract infection (RR 0.54, 95% CI 0.46 to 0.64).
- Serious infectious morbidity or death (RR 0.42, 95% CI 0.28 to 0.65).

Adapted from Smaill F, Hofmeyr GJ. Antibiotic prophylaxis for cesarean section. *The Cochrane Database of Systematic Reviews* 2002, Issue 3. Art. No.: CD000933. DOI: 10.1002/14651858.CD000933.

Produced by the Effective Health Care Alliance Programme (www.liv.ac.uk/evidence), Liverpool School of Tropical Medicine, supported by the Department for International Development UK; and the Australasian Cochrane Centre.



Authors' conclusions

Implications for practice:

Prophylactic antibiotics have important health gains when used in both elective and non-elective caesarean section. Evaluation of specific regimens are contained in a separate review.

Implications for research:

Further placebo-controlled trials of the effectiveness of antibiotics with caesarean section are not ethically justified. Research should concentrate on methods to implement effective policies of routine prophylaxis for women undergoing caesarean section. Data is needed on the safety of the intervention for the mother and infant. Future research should look at interventions to reduce further the incidence of infection from that achieved with the current standard approach to antibiotic prophylaxis.