

Antibiotic prophylaxis for term or near-term premature rupture of membranes: metaanalysis of randomized trials

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Objective

The objective of the study was to evaluate the efficacy of antibiotic prophylaxis in women with term or near-term premature rupture of membranes.

Study Design

Searches were performed in MEDLINE, OVID, Scopus, ClinicalTrials.gov, the PROSPERO International Prospective Register of Systematic Reviews, EMBASE, ScienceDirect.com, MEDSCAPE, and the Cochrane Central Register of Controlled Trials with the use of a combination of key words and text words related to antibiotics, premature rupture of membranes, term, and trials from inception of each database to September 2014. We included all randomized trials of singleton gestations with premature rupture of membranes at 36 weeks or more, who were randomized to antibiotic prophylaxis or control (either placebo or no treatment). The primary outcomes included maternal chorioamnionitis and neonatal sepsis. A subgroup analysis on studies with latency more than 12 hours was planned. Before data extraction, the review was registered with the PROSPERO International Prospective Register of Systematic Reviews (registration number CRD42014013928). The metaanalysis was performed following the Preferred Reporting Item for Systematic Reviews and Meta-analyses statement.

Results

Women who received antibiotics had the same rate of chorioamnionitis (2.7% vs 3.7%; relative risk [RR], 0.73, 95% confidence interval [CI], 0.48–1.12), endometritis (0.4% vs 0.9%; RR, 0.44, 95% CI, 0.18–1.10), maternal infection (3.1% vs 4.6%; RR, 0.48, 95% CI, 0.19–1.21), and neonatal sepsis (1.0% vs 1.4%; RR, 0.69, 95% CI, 0.34–1.39). In the planned subgroup analysis, women with latency longer than 12 hours, who received antibiotics, had a lower rate of chorioamnionitis (2.9% vs 6.1%; RR, 0.49, 95% CI, 0.27–0.91) and endometritis (0% vs 2.2%; RR, 0.12, 95% CI, 0.02–0.62) compared with the control group.

Conclusion

Antibiotic prophylaxis for term or near-term premature rupture of membranes is not associated with any benefits in either maternal or neonatal outcomes. In women with latency longer than 12 hours, prophylactic antibiotics are associated with significantly lower rates of chorioamnionitis by 51% and endometritis by 88%.