Antibiotic prophylaxis for operative vaginal delivery

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RHL Summary

Key findings

Antibiotic prophylaxis using 2 g single dose of cefotetan in women who had operative vaginal delivery had lower risk of endomyometritis; however, the difference was not statistically significant.

Evidence included in this review

This review included only one trial involving 393 women undergoing operative vaginal delivery.

Quality assessment

The quality of evidence using GRADE was low.

Clinical implications

The evidence to support routine antibiotic prophylaxis for women undergoing operative vaginal delivery is insufficient both in quantity and in quality.

Further research

High quality randomized controlled trials are required to evaluate the effectiveness and adverse effects of antibiotic prophylaxis for women undergoing operative vaginal delivery.

Cochrane review


Abstract
Vacuum and forceps assisted vaginal deliveries are reported to increase the incidence of postpartum infections and maternal readmission to hospital compared to spontaneous vaginal delivery. Prophylactic antibiotics may be prescribed to prevent these infections. However, the benefit of antibiotic prophylaxis for operative vaginal deliveries is still unclear.

To assess the effectiveness and safety of antibiotic prophylaxis in reducing infectious puerperal morbidities in women undergoing operative vaginal deliveries including vacuum or forceps deliveries, or both.

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 August 2014).

All randomised trials comparing any prophylactic antibiotic regimens with placebo or no treatment in women undergoing vacuum or forceps deliveries were eligible. Participants were all pregnant women without evidence of infections or other indications for antibiotics of any gestational age undergoing vacuum or forceps delivery for any indications. Interventions were any antibiotic prophylaxis (any dosage regimen, any route of administration or at any time during delivery or the puerperium) compared with either placebo or no treatment.

Two review authors assessed trial eligibility and methodological quality. Two review authors extracted the data independently using prepared data extraction forms. Any discrepancies were resolved by discussion and a consensus reached through discussion with all review authors. For this update, we assessed methodological quality of the one included trial using the standard Cochrane criteria and the GRADE approach. We calculated the risk ratio (RR) and mean difference (MD) using a fixed-effect model and all the review authors interpreted and discussed the results.

One trial, involving 393 women undergoing either vacuum or forceps deliveries, was included. This trial identified only two out of the nine outcomes specified in this review. It reported seven women with endomyometritis in the group given no antibiotic and none in prophylactic antibiotic group. This difference did not reach statistical significance, but the risk reduction was 93% (risk ratio (RR) 0.07; 95% confidence interval (CI) 0.00 to 1.21). There was no difference in the length of hospital stay between the two groups (mean difference (MD) 0.09 days; 95% CI -0.23 to 0.41). Overall, the risk of bias was judged as low. The quality of the evidence using GRADE was low for both endometritis and maternal length of stay.

The data were too few to make any recommendations for practice. Future research on antibiotic prophylaxis for operative vaginal delivery is needed to conclude whether it is useful for reducing postpartum morbidity.

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