Antibiotic prophylaxis for third- and fourth-degree perineal tear during vaginal birth

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RHL Summary

Key findings

In one small trial, antibiotic prophylaxis with a single dose second-generation cephalosporin significantly reduced the risk of perineal wound complications at two-weeks postpartum. However, the statistical significance was borderline and there was a high loss to follow up rate.

Evidence included in this review

Only one trial with 147 women (planned sample size was 310 women) was included in this review.

Quality assessment

The quality assessment using GRADE was moderate for infection rate at two weeks postpartum and low for infection rate at six weeks postpartum.

Clinical implications

The evidence to support the use of prophylactic antibiotics for third- and fourth-degree perineal tear after vaginal birth should be treated with caution as it was based on one small trial.

Further research

Well designed, randomized controlled trials of adequate sample sizes are required to assess the effectiveness of prophylactic antibiotics for third- and fourth-degree perineal tear after vaginal birth.

Cochrane review

Abstract

One to eight per cent of women suffer third-degree perineal tear (anal sphincter injury) and fourth-degree perineal tear (rectal mucosa injury) during vaginal birth, and these tears are more common after forceps delivery (28%) and midline episiotomies. Third- and fourth-degree tears can become contaminated with bacteria from the rectum and this significantly increases in the chance of perineal wound infection. Prophylactic antibiotics might have a role in preventing this infection.

To assess the effectiveness of antibiotic prophylaxis for reducing maternal morbidity and side effects in third- and fourth-degree perineal tear during vaginal birth.

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 August 2014) and the reference lists of retrieved articles.

Randomised controlled trials comparing outcomes of prophylactic antibiotics versus placebo or no antibiotics in third- and fourth-degree perineal tear during vaginal birth.

Two review authors independently assessed the trial reports for inclusion and risk of bias, extracted data and checked them for accuracy.

We identified and included one trial (147 women from a pre-planned sample size of 310 women) that compared the effect of prophylactic antibiotic (single-dose, second-generation cephalosporin - cefotetan or cefoxitin, 1 g intravenously) on postpartum perineal wound complications in third- or fourth-degree perineal tears compared with placebo. Perineal wound complications (wound disruption and purulent discharge) at the two-week postpartum check up were 8.20% and 24.10% in the treatment and the control groups respectively (risk ratio (RR) 0.34, 95% confidence interval (CI) 0.12 to 0.96). However, the high failed-appointment rate may limit the generalisability of the results. The overall risk of bias was low except for incomplete outcome data. The quality of the evidence using GRADE was moderate for infection rate at two weeks' postpartum, and low for infection rate at six weeks' postpartum.

Although the data suggest that prophylactic antibiotics help to prevent perineal wound complications following third- or fourth-degree perineal tear, loss to follow-up was very high. The results should be interpreted with caution as they are based on one small trial.

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