WHO recommendation against routine antibiotic prophylaxis for women with uncomplicated vaginal birth

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Recommendation

Routine antibiotic prophylaxis is not recommended for women with uncomplicated vaginal birth.

(Very low - quality evidence, strong recommendation)

Publication history

First published: September 2015

Updated: no update planned

Assessed as up-to-date: September 2015

Remarks

- The GDG was concerned about the potential public health implication of the high rate of routine use of antibiotics following vaginal birth without any specific risk factors in some settings. The group puts its emphasis on the negative impact of such policy on the global efforts to contain antimicrobial resistance and, therefore, made a strong recommendation against routine antibiotic prophylaxis.
- “Uncomplicated vaginal birth” in this context connotes vaginal birth in the absence of any specific risk factor for or clinical signs of maternal peripartum infection.
- Careful monitoring of all women after birth is essential to promptly identify any sign of endometritis and institute appropriate antibiotic treatment (see recommendation on the combination of clindamycin and gentamicin for the treatment of postpartum endometritis).
- Recommendations on antibiotic use for common intrapartum conditions or interventions that often raise concerns about increased risk of infection are available in this guideline.

Background

Bacterial infections during labour and the puerperium are among the leading causes of maternal mortality worldwide, accounting for about one tenth of the global burden of maternal deaths.(1, 2) While the number of deaths arising from these infections has decreased considerably in high-income settings, the situation has not improved in resource-limited settings. Most of the estimated 75,000 maternal deaths occurring worldwide yearly as a result of infections are recorded in low-income countries.(3) Although the reported incidence in high-income countries is relatively low (between 0.1 and 0.6 per 1000 births), it is nonetheless an important direct cause of maternal mortality.(3, 4)
Apart from deaths and acute morbidities associated with infections during or following childbirth, long-term disabilities such as chronic pelvic pain, fallopian tube blockage and secondary infertility can also occur. Maternal infections around childbirth also have a considerable impact on newborn mortality, and an estimated 1 million newborn deaths are associated with such infections annually.(5, 6) In addition, infection-related morbidities and prolonged hospitalization can interfere with mother–infant bonding in the first days after birth.

Methods

The recommendation was developed using standardized operating procedures in accordance with the process described in the “WHO handbook for guideline development”, guided by the GRADE approach.(7) Outcomes used for this recommendation were aligned with the prioritized outcomes from the WHO recommendations on prevention and treatment of maternal peripartum infections (2015).(8)

A Cochrane review was conducted on the impact of antibiotic prophylaxis in women with uncomplicated (“normal”) vaginal birth.(9) In the review, randomized controlled trials relevant to the key question were screened by review authors, and data on relevant outcomes and comparisons were extracted. Evidence profiles (in the form of GRADE tables) were prepared for comparisons of interest, including the assessment and judgments for each outcome, and the estimated risks.

WHO convened a Guideline Development Group (GDG) meeting on recommendations on prevention and treatment of maternal peripartum infections in September 2015, where this recommendation was developed. The GDG comprised of a group of independent experts, who used the evidence profiles to assess evidence on effects on the pre-specified outcomes. GDG members discussed the balance between desirable and undesirable effects, overall quality of supporting evidence, values and preferences of stakeholders, resource requirements, cost-effectiveness, acceptability, feasibility and equity, to formulate the recommendation. Remarks were added to clarify the recommendation, and aid implementation.

Recommendation question

For this recommendation, we aimed to answer the following question:

- Among pregnant women with uncomplicated vaginal birth (P), does antibiotic prophylaxis after birth (I), compared with no prophylaxis or placebo (C) prevent infectious morbidities and improve outcomes (O)?

Evidence Summary

Evidence on the impact of antibiotic prophylaxis in women with uncomplicated (“normal”) vaginal birth was extracted from a systematic review which identified two eligible randomized controlled trials involving 1653 women.(9) The two trials compared antibiotic prophylaxis with no prophylaxis. The trials were conducted in France and Japan.

One of the trials described women with “uncomplicated vaginal birth” as those who had vaginal delivery, no fever (> 38 °C) during labour or the hour following delivery, an interval of < 24 hours between rupture of membranes and labour onset, no evidence of extragenital infection (e.g. urinary tract infection) and no known allergy to Amox-CA or betalactam. The study excluded women with evidence of amniotic fluid infection at the time of admission. The second trial excluded women with a history of hypersensitivity to the tested antibiotics (cefteram or cephem), fourthdegree perineal lacerations, birth after PROM at term, underlying medical conditions such as gestational hypertension and diabetes mellitus and at the discretion of the physician.
One trial used a single dose of Amox-CA 1 g intravenously, while the other trial used oral 300 mg ceferam pivotal for three or five days.

In terms of outcomes, one of the trials used clinical and/or laboratory criteria for diagnosing endometritis: pyrexia > 38 °C confirmed on two separate occasions and accompanied by pain on mobilizing the uterus and/or fetid lochia, and/or leucocytosis of more than 10 000/mm3. The other trial used only clinical criteria that included the occurrence of “fever more than 37 °C for more than two days, or infected lochia, or low abdominal pain detected and diagnosed by the doctor in charge, after 24 hours from birth”.

**Antibiotic prophylaxis versus no prophylaxis/placebo (EB Table 13)**

- Women receiving antibiotic prophylaxis after uncomplicated vaginal birth experienced significantly reduced incidence of endometritis (RR 0.26, 95% CI 0.09 to 0.73; 2 trials, 1653 women). However, no statistically significant difference was observed in the risks of puerperal fever (RR 0.26, 95% CI 0.02 to 3.97, 2 trials, 1653 women), wound infection (RR 0.80, 95% CI 0.07 to 8.68; 1 trial, 362 women), urinary tract infection (RR 0.51, 95% CI 0.18 to 1.45; 1 trial, 1291 women) and duration of hospital stay (MD -0.15 days, 95% CI -0.31 to 0.01; 1 trial, 1291 women).
- All other outcomes reported in the review were not prespecified as critical outcomes for this recommendation question.

**Implementation considerations**

- The successful introduction of this recommendation into national programmes and health-care services depends on well-planned and participatory consensus-driven processes of adaptation and implementation. The adaptation and implementation processes may include the development or revision of existing national guidelines or protocols based on this recommendation.
- The recommendation should be adapted into a locally appropriate document that can meet the specific needs of each country and health service. Any changes should be made in an explicit and transparent manner.
- A set of interventions should be established to ensure that an enabling environment is created for the use of the recommendations, and that the behaviour of the healthcare practitioner changes towards the use of this evidence-based practice.
- In this process, the role of local professional societies is important and an all-inclusive and participatory process should be encouraged.

**Research implications**

The GDG identified that further research on the following high-priority questions is needed:

- What are the effects of routine prophylactic antibiotics on preventing infection morbidity among women with normal (uncomplicated) vaginal birth?

**Related Links**


Supporting systematic review:


**References**


Citation


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