WHO recommendation against routine antibiotic administration for women with meconium-stained amniotic fluid

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Recommendation

Routine antibiotic administration is not recommended for women with meconium-stained amniotic fluid.

(Low-quality evidence, conditional recommendation)

Publication history

First published: September 2015

Updated: no update planned

Assessed as up-to-date: September 2015

Remarks

- In the absence of convincing evidence, the GDG puts its emphasis on the public health impact of routine administration of antibiotics (in terms of increasing antibiotic resistance) for a relatively common condition in labour and decided to recommend against the intervention.
- Antibiotics should be used in a situation where the passage of meconium by the fetus may be triggered by antepartum or intrapartum infectious morbidity – e.g. chorioamnionitis — or when the characteristics of the liquor suggest intrapartum infection.
- It is important that a personnel experienced in neonatal resuscitation attends the delivery of all infants in whom thick meconium liquor is noted, as the risk of meconium aspiration syndrome is higher in this situation.

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 systematic review was conducted on the routine use of prophylactic antibiotics among women presenting with meconium-stained amniotic fluid during labour.(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 meconium-stained amniotic fluid during labour (P), does routine administration of antibiotics (I), compared with no routine antibiotics (C), prevent infectious morbidities and improve outcomes (O)?

Evidence Summary

Evidence for the routine use of prophylactic antibiotics among women presenting with meconium-stained amniotic fluid during labour was extracted from a Cochrane systematic review of two trials involving 362 women (29). The two trials were led by the same investigator. One trial was reported only as a conference abstract with little methodological detail.

Both trials were conducted in the USA. The trials excluded women with evidence of active infection or allergy to penicillin and/or cephalosporin.

The two trials compared 3 g of intravenous ampicillin-sulbactam (one trial repeated every six hours until delivery) with intravenous normal saline as placebo.

Antibiotics versus placebo or no treatment (EB Table 9)

- The incidence of chorioamnionitis was significantly reduced in the treated group compared with placebo (RR 0.36, 95% CI 0.21 to 0.62; 2 trials, 362 women), but no difference was observed in the incidence of postpartum endometritis (RR 0.5, 95% CI 0.18 to 1.38; 1 trial, 120 women).
- No difference was found in the incidence of neonatal sepsis (RR 1.00, 95% CI 0.21 to 4.76; 1 trial, 120 infants) or NICU admission (RR 0.83, 95% CI 0.18 to 1.38; 1 trial, 120 infants).
- No serious adverse effects were reported.
- The trials did not report on maternal severe infectious morbidities, maternal or neonatal mortality, or antibiotic resistance.
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 did not identify further research priorities on this topic.

Related Links


Supporting systematic review:


References


Citation


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