WHO recommendation on the use of amniotomy and oxytocin for treatment of confirmed delay in labour

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Recommendation

The use of amniotomy and oxytocin for treatment of confirmed delay in labour is recommended.

(Weak recommendation, very low-quality evidence)

Publication history

First published: May 2014

Updated: prioritized for updating in 2018

Assessed as up-to-date: May 2014

Remarks

• The GDG agreed that, despite the lack of research evidence, if a delay in labour progress is associated with lack of regular uterine contractions, the stimulation of uterine contractions with oxytocin and amniotomy is a reasonable clinical choice. The group acknowledged the lack of evidence on how the sequence of amniotomy and oxytocin infusion affects outcomes and considers this a research priority.

• There is a need to exercise caution among women with HIV.

Background

Difficult labour (or dystocia) is characterized by abnormally slow labour progress arising from inefficient uterine contractions, abnormal fetal presentation or position, inadequate bony pelvis or abnormalities of the pelvic soft tissues of the mother. (1, 2) Evidence suggests that up to one third of first-time mothers experience delay in the first stage of labour. (3)

Augmentation of labour is the process of stimulating the uterus to increase the frequency, duration and intensity of contractions after the onset of spontaneous labour. It has commonly been used to treat delayed labour when uterine contractions are assessed to be insufficiently strong or inappropriately coordinated to
dilate the cervix. Labour augmentation has traditionally been performed with the use of intravenous oxytocin infusion and/or artificial rupture of amniotic membranes (amniotomy). The procedure aims to shorten labour in order to prevent complications relating to undue prolongation, and to avert caesarean section. There is evidence that a significant proportion of women with uncomplicated pregnancies are subjected to routine augmentation of labour with oxytocin. (4)

While augmentation of labour may be beneficial in preventing prolonged labour, its inappropriate use may cause harm. Augmentation with synthetic oxytocin may result in uterine hyperstimulation, with adverse effects such as fetal asphyxia and uterine rupture, and thus increase the risk of a cascade of interventions during labour and delivery. (5)

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.(6) Outcomes used for this recommendation were aligned with the prioritized outcomes from the WHO recommendations on augmentation of labour (2014).(7)

A Cochrane systematic review was conducted, on use of the partograph as a monitoring tool to identify when intervention becomes indicated during labour.(8) 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 augmentation of labour in September 2013, 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:

- In pregnant women in labour (P), does the use of amniotomy and oxytocin for treatment of confirmed delay in labour (I), compared to no or other interventions (C), improve maternal and perinatal outcomes (O)?

Evidence Summary

Evidence on the use of amniotomy and oxytocin compared with routine care for the treatment of delay was drawn from one Cochrane systematic review including three RCTs (280 women) (17). Two of the trials were conducted in the United Kingdom and one was conducted in Israel.

Women with established delay in the first stage of labour were allocated to amniotomy and oxytocin versus usual care. Usual care varied across different settings.
Amniotomy and oxytocin for the treatment of delay: maternal outcomes

- The review did not report on maternal mortality.
- There was a significant reduction in the total duration of labour for women in the intervention group in one trial (MD –3.10 hrs, 95% CI –4.63 to –1.57; 141 women). However, two trials failed to demonstrate a difference in the length of the first stage of labour (MD –1.58 hrs, 95% CI –4.27 to 1.10; 240 women).
- There was no significant difference between groups in the frequency of PPH (blood loss > 500 ml) (RR 6.90, 95% CI 0.36 to 131.23; one trial, 141 women).
- There was no significant difference between groups for rates of caesarean section for any indication (RR 1.47, 95% CI 0.73 to 2.96; three trials, 280 women) or spontaneous vaginal birth (RR 0.96, 95% CI 0.85 to 1.08; three trials, 282 women).
- There were no reported data on hyperstimulation of labour or maternal blood transfusion.
- One trial reported comparable maternal satisfaction with labour experience in both groups (RR 1.02, 95% CI 0.75 to 1.39).
- One trial reported rates of maternal fever or infection: event rates were low and there was no difference between groups (RR 1.63, 95% CI 0.41 to 6.47).

Amniotomy and oxytocin for the treatment of delay: infant outcomes

- For neonatal outcomes, there were no data on serious neonatal morbidity, abnormal arterial cord pH (acidosis), jaundice or hyperbilirubinaemia.
- The trials were too small to show a difference between groups for admission to NICU (RR 0.08, 95% CI 0.00 to 1.30; one trial, 99 women) or Apgar score < 7 at five minutes (RR 2.73, 95% CI 0.12 to 63.19; one trial, 40 women); event rates for both outcomes were very low and effect estimates were therefore imprecise.

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 (including, for example, the availability of augmentation agents and monitoring capacity), 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 comparative effects of oxytocin alone, amniotomy alone and concurrent oxytocin and amniotomy in women with confirmed delay in the first stage of labour?
  - How does the sequence of oxytocin and amniotomy as concurrent interventions affect outcomes when used for labour augmentation?

Related Links

WHO recommendations for augmentation of labour (2014) –[full document](#) and [evidence tables](#)

Supporting systematic review:


References


Citation

Published on RHL (https://extranet.who.int/rhl)

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