WHO recommendation on the use of oxytocin alone for treatment of delay in labour

11 May 2014

Recommendation

The use of oxytocin alone for treatment of delay in labour is recommended.

(Weak recommendation, very low quality of evidence)

Publication history

First published: May 2014

Updated: prioritized for updating in 2018

Assessed as up-to-date: May 2014

Remarks

- The GDG noted that there is insufficient evidence to demonstrate the benefits of oxytocin augmentation for delayed labour, in spite of its widespread use in clinical practice. However, it was agreed that the ability of oxytocin to stimulate uterine contractions both before and during labour is undisputed and judicious oxytocin use in case of insufficient contractions can prevent unduly prolonged labour.

- The recommendation leaned on the evidence of some benefits of oxytocin when used as a single intervention for labour induction, compared with expectant management, and by inference the potential for benefit where the primary cause of delay in labour progress is insufficient uterine contractions.

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.

Further information on procedures for developing this recommendation are available here.

Recommendation question

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

- In pregnant women in labour (P), does the use of oxytocin alone for treatment of delay in labour (I), compared to no intervention, (C), improve maternal and perinatal outcomes (O)?
Evidence Summary

Evidence on the use of oxytocin versus placebo or no treatment for delayed progress in labour was drawn from a Cochrane systematic review of three trials (138 women) conducted in Thailand, Argentina and the USA.(8) Women recruited into the trials were described as being at low risk, with term pregnancies and in the first stage of spontaneous labour. Almost all of the women included in the trials were nulliparous.

**IV oxytocin versus no treatment: maternal outcomes**

- The review reported none of the critical outcomes, and provided data for very few important outcomes.
- There were no significant differences between women randomized to receive oxytocin versus women in the control group for caesarean section (RR 0.84, 95% CI 0.36 to 1.96) or instrumental vaginal birth (RR 1.04, 95% CI 0.45 to 2.41).

**IV oxytocin versus no treatment: infant outcomes**

- For low Apgar score at five minutes, there were no events in either group (one trial, 87 women).

Further information and considerations related to this recommendation can be found in the WHO guidelines, available at: [http://apps.who.int/iris/bitstream/handle/10665/112826/WHO_RHR_14.15_eng...](http://apps.who.int/iris/bitstream/handle/10665/112826/WHO_RHR_14.15_eng...)

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 is the safest maximum dose of oxytocin for labour augmentation?
- What is the safest and most effective incremental rate of oxytocin infusion for labour augmentation?
- 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


Supporting systematic review:


References


Citation


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