WHO recommendation on induction for the prevention of eclampsia in women with severe pre-eclampsia when the fetus is not viable

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Recommendation

Induction of labour is recommended for women with severe pre-eclampsia at a gestational age when the fetus is not viable or unlikely to achieve viability within one or two weeks.

(very low quality evidence, strong recommendation)

Publication history

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Remarks

- A policy of expectant management usually includes intra-hospital care with steroids for fetal lung maturation, magnesium sulfate (as necessary), antihypertensive drugs (as necessary), and close maternal and fetal monitoring to identify indications for delivery (e.g. uncontrolled hypertension, deterioration in the condition of the mother and the fetus, including organ dysfunction and fetal distress). As part of expectant management, in-utero transfer to a tertiary-level centre with neonatal intensive care capacity should be considered. The decision on the route of delivery should be made on a case-by-case basis, taking into account, among other factors, gestational age, fetal and cervical status, and urgency.

- The guideline development group considered that the gestational age threshold for using expectant management in very preterm fetuses depends on the fetal viability status and on the anticipated prolongation of gestation with expectant management. The guideline development group acknowledged that the gestational age threshold of fetal viability should be locally agreed. In establishing this, the local context, the availability of resources, and the local newborn survival rates by gestational age, should be considered. (1, 2) The average gain in terms of prolongation of gestation with expectant management ranges from 1 week to 2 weeks. Hence, fetuses at a gestational age 1–2 weeks below the fetal viability threshold may benefit from expectant management.
Background

Hypertensive disorders of pregnancy are an important cause of severe morbidity, long-term disability and death among both mothers and their babies. Worldwide, they account for approximately 14% of all maternal deaths, whereas in Latin America and the Caribbean, they contribute to approximately 22% of all maternal deaths. (3)

Among the hypertensive disorders that complicate pregnancy, pre-eclampsia and eclampsia stand out as major causes of maternal and perinatal mortality and morbidity. The majority of deaths due to pre-eclampsia and eclampsia are avoidable through the provision of timely and effective care to the women presenting with these complications.

Precise cut offs of viable gestational age may vary by setting, generally somewhere between 24 and 34 weeks, with very little chance of survival of birth before 24 weeks. Preterm birth increases the risks of neonatal complications including difficulty in breathing (respiratory distress syndrome), bleeding into spaces in the brain (intraventricular haemorrhage), and death of the wall of the bowel due to poor blood flow (necrotizing enterocolitis). The trade-off of delaying delivery is increased risk of negative outcomes for the mother, potentially including death. (4)

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. (5, 6) Outcomes used for this recommendation were aligned with the prioritized outcomes from the WHO recommendations on prevention and treatment of pre-eclampsia eclampsia (2011). (7)

A Cochrane systematic review was conducted, on interventional vs expectant management for severe pre-eclampsia. (4) 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 for prevention and treatment of pre-eclampsia or eclampsia in April 2011, 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/s:

- in women with severe pre-eclampsia before term (P), does induction of labor (I) compared to expectant management or no treatment (C), improve maternal outcomes (O)?
- If so, what gestational age threshold should be used?
Evidence Summary

Evidence related to the differential effects of a policy of interventionist care and early delivery compared with a policy of expectant care and delayed delivery for women with early onset severe pre-eclampsia was extracted from a Cochrane systematic review.(4) The review included three small trials that recruited a total of 163 women with severe pre-eclampsia at less than 34 weeks’ gestation. The policy of interventionist care in these trials included 24–48 hours of stabilization followed by delivery just after stabilization. During the stabilization period steroids, magnesium sulfate and antihypertensive drugs were administered as necessary. When the policy of interventionist care was compared with that of expectant care and delayed delivery, there were no statistically significant differences in any of the critical (or proxy) outcomes of eclampsia, renal failure, pulmonary oedema, HELLP syndrome, perinatal death and admission to neonatal intensive care unit. Adverse critical outcomes for the mother were generally rare in both comparison groups (EB Table 50). The findings for reported critical outcomes in RCTs were considered imprecise because of very small sample sizes and sparse data in the comparisons.

Another systematic review including observational data (39 cohorts, 4650 women, very low quality) found similar results, though all four cohorts relevant to women with pre-eclampsia before 24 weeks went in favour interventionist care due to very high perinatal mortality and morbidity with either policy.(8)

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 reliable gestational age), 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 2011 GDG did not identify any high-priority research questions on this intervention.

Related Links

WHO recommendations on prevention and treatment of pre-eclampsia and eclampsia (2011) - full document and evidence tables (EB Table 50)

Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice

Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors
Supporting systematic reviews:


References


Citation


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