WHO recommendation on the use of corticosteroids for treating HELLP syndrome

30 October 2011

Recommendation

The use of corticosteroids for the specific purpose of treating women with HELLP syndrome is not recommended.

(very low-quality evidence, weak recommendation)

Publication history

First published: October 2011

Updated: prioritized for updating

Assessed as up-to-date: October 2011

Remarks

- The guideline development group noted that, in addition to the existing evidence, three small trials addressing this research question had been registered in the WHO International Clinical Trials Registry Platform (1)[SLATTERYS1]. In one trial (66 women) recruitment had been completed, in the second trial it was still ongoing (160 women) and in the third recruitment was yet to begin. In view of the very low quality of the evidence base on this topic and relative ease of use and availability/affordability of corticosteroids, the group accorded corticosteroids for the treatment of HELLP syndrome high priority for further research.
- The guideline development group emphasized that the use of corticosteroids for other indications, such as fetal lung maturation, are not included in the above recommendation.

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.(1)

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.

A severe complication of pre-eclampsia is HELLP (haemolysis, elevated liver enzymes, low platelets) syndrome. It is associated with poor outcomes and death for pregnant women and neonates.

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

A Cochrane systematic review was conducted, on the use of corticosteroids in treating HELLP syndrome. In the reviews, 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 pregnant women with HELLP (P), does treatment with corticosteroids (I) compared to placebo or no treatment (C), improve maternal and perinatal outcomes (O)?

Evidence Summary

Evidence related to the use of corticosteroids for improving pregnancy outcomes in women with HELLP syndrome was extracted from one Cochrane systematic review of 13 RCTs, all of which were relatively small (total of 626 women). Participants in these trials were women with clinical and biochemical diagnosis of HELLP syndrome during pregnancy or shortly after delivery. Eleven trials (550 women) compared corticosteroid therapy (dexamethasone, bethamethasone or prednisolone) with placebo or no treatment while two trials (76 women) compared dexamethasone with bethamethasone.

When a corticosteroid was compared with placebo or no treatment for women with HELLP syndrome, there were no statistical differences in the critical (or proxy) outcomes: eclampsia (one trial, 132 women; RR 0.80, 95% CI 0.34–1.90); maternal death (five trials, 362 women; RR 0.95, 95% CI 0.28–3.21), maternal death or severe morbidity (one trial, 31 women; RR 0.27, 95% CI 0.03–2.12), maternal liver haematoma, rupture or failure (two trials, 91 women; RR 0.22, 95% CI 0.03–1.83), maternal pulmonary oedema (three trials, 297
women; RR 0.77, 95% CI 0.24–2.48), renal failure (three trials, 297 women; RR 0.69, 95% CI 0.39–1.22), need for dialysis (one trial, 60 women; RR 3.00, 95% CI 0.13–70.83), perinatal/infant death (two trials, 58 women; RR 0.64, 95% CI 0.21–1.97) and 5-minute Apgar score less than seven (two trials, 58 women; RR 0.89, 95% CI 0.27–2.95). These findings were consistent when treatment was commenced antenatally, postnatally or mixed (EB Table 48). The findings for all these outcomes were generally imprecise because of very small sample sizes in the trials and sparse data.

Comparison of dexamethasone with betamethasone for treatment of HELLP syndrome showed no statistically significant differences in the two critical outcomes addressed: perinatal/infant death (one trial, 43 infants; RR 0.95, 95% CI 0.15–6.17); and 5-minutes Apgar score less than seven (one trial, 43 infants; RR 0.95, 95% CI 0.22–4.21) (EB Table 49).

**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 low-dose aspirin in antenatal care settings), 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 identified that further research on the following high-priority questions is needed:

- The benefits and potential harms of corticosteroids for treatment of HELLP syndrome need to be elucidated.

**Related Links**

[WHO recommendations on prevention and treatment of pre-eclampsia and eclampsia (2011) - full document and evidence tables](#) (EB Table 51)

[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 review](#)

References


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