

## PUBLISHED VERSION

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Antenatal corticosteroids to reduce preterm deaths in low-income settings  
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## Antenatal corticosteroids to reduce preterm deaths in low-income settings

In their Comment<sup>1</sup> on the use of antenatal corticosteroids to reduce preterm infant deaths, Kishwar Azad and Anthony Costello advise “extreme caution” before scale-up in low-income settings. They emphasise maternal sepsis as a concern but cite only one trial in which dexamethasone resulted in a significant increase in fever that required antibiotic treatment compared with controls (relative risk [RR] 2.05, 95% CI 1.14–3.69; 118 women).<sup>1,2</sup> We suggest that this finding alone does not reflect a balanced assessment of the paucity of evidence available.<sup>2</sup>

In a systematic review of antenatal corticosteroid treatment to accelerate fetal lung maturation, only four of 21 randomised controlled trials report on puerperal sepsis outcomes for dexamethasone versus no antenatal corticosteroids and these show moderate heterogeneity ( $I^2$  38%) (RR 1.74, 95% CI 1.04–2.89; 536 women).<sup>2</sup> Only two trials were in low-income to middle-income countries and had very different results: the Dexiprom trial from South Africa

(0.57, 0.17–1.89; 204 women) and one trial from Jordan (4.19, 0.94–18.68; 139 women). Incidence of maternal postnatal fever did not differ in two trials, the US Collaborative trial (0.93, 0.56–1.53; 682 women) and the Dexiprom trial in South Africa (1.00, CI 0.36–2.75; 204 women). Most reassuringly, no significant difference was reported in the incidence of chorioamnionitis in four trials of dexamethasone (1.35, 0.89–2.05; 575 women) or postnatal fever in two trials of dexamethasone (0.94, 0.60–1.47; 886 women).<sup>2</sup> No trials of dexamethasone reported on maternal intrapartum fever when antibiotics were given.

Trials of betamethasone versus dexamethasone in accelerating fetal lung maturation have not reported on maternal infectious outcomes.<sup>3</sup> We are currently undertaking a large-scale trial to compare the efficacy of intramuscular dexamethasone versus betamethasone in reducing childhood neurosensory disability, with maternal infection as a secondary outcome.<sup>4</sup> Currently, no published data suggest a major risk of maternal infection with the use of antenatal corticosteroids and none are available to allow confident assertion that dexamethasone increases the risk. According to

present recommendations, the major safety concern surrounding the use of antenatal corticosteroids is repeat doses.<sup>5</sup>

CC is an author of two of the Cochrane systematic reviews cited in this Correspondence and is principal investigator for the A\*STEROID randomised controlled trial (ACTRN12608000631303).

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- 1 Azad K, Costello A. Extreme caution is needed before scale-up of antenatal corticosteroids to reduce preterm deaths in low-income settings. *Lancet Glob Health* 2014; **2**: e191–92.
- 2 Roberts D, Dalziel S. Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth. *Cochrane Database Syst Rev* 2006; **3**: CD00004454.
- 3 Brownfoot FC, Crowther CA, Middleton P. Different corticosteroids and regimens for accelerating fetal lung maturation for women at risk of preterm birth. *Cochrane Database Syst Rev* 2008; **4**: CD00006764.
- 4 Crowther CA, Harding JE, Middleton PF, et al. Australasian randomised trial to evaluate the role of maternal intramuscular dexamethasone versus betamethasone prior to preterm birth to increase survival free of childhood neurosensory disability (A\*STEROID): study protocol. *BMC Pregnancy Childbirth* 2013; **13**: 104.
- 5 Crowther CA, McKinlay CJD, Middleton P, Harding JE. Repeat doses of prenatal corticosteroids for women at risk of preterm birth for improving neonatal health outcomes. *Cochrane Database Syst Rev* 2011; **6**: CD003935.

