Immediate delivery for group B streptococci-colonised women with preterm premature rupture of membranes. Don't forget the antibiotics

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The PPROMEXIL trials compared 'immediate delivery', involving induction of labour (IOL) within 48 hours of randomisation with expectant management (EM) for 723 women who were not in labour but had ruptured membranes for more than 24 hours between 34 and 37 weeks of gestation (van der Ham et al. *Plos Med* 2012;9:e1001208; van der Ham et al. *Am J Obset Gynecol* 2012;207:276. e1–10). No significant reduction was found in the risk of early neonatal sepsis (within 72 hours of birth and measured by a positive blood culture with symptoms or laboratory measures of infection). In the accompanying paper, Tajik et al. report a post hoc analysis to determine whether the effect of IOL differed according to whether women were colonised with group B streptococci (GBS) or not.

Among the 13% of women (n = 103) colonised with GBS, they found a reduction in neonatal sepsis from 15.2% (7/46) in the EM group to 1.8% (1/57) in the IOL group. Rates of neonatal sepsis were similar in the EM and IOL groups of women who were not colonised with GBS (2.6%; 8/313 EM versus 2.9% 9/306 IOL group). However, rates of clinical and histological chorioamnionitis were reduced by IOL in both GBS colonised (clinical 10.9% EM to 5.4% IOL) and noncolonised women (clinical 4.5% EM to 1.0% IOL). All of these differences were significant at the 5% level.

A key question for practitioners is whether women with PPROM who were managed by EM or IOL were already receiving prenatal antibiotic prophylaxis. Based on a systematic review of randomised trials (Kenyon et al. *Cochrane Database Sys Rev* 2013;12:CD001058), prenatal antibiotics are recommended for PPROM regardless of maternal GBS status because they significantly prolong pregnancy and reduce neonatal infection (sepsis or pneumonia), chorioamnionitis and abnormal neonatal cerebral ultrasound scans. However, the PPROMEXIL trials allowed prenatal antibiotics to be administered according to local protocols and in most cases, these were administered empirically, without knowledge of maternal culture results. However, substantially more GBS-colonised women received antibiotics (89%; 40/45 EM versus 69% 39/56 IOL), than those who were not GBS colonised (37% 119/305 EM versus 37% 111/303 IOL group). Not surprisingly, given the low rates of antibiotics used in the non-GBS-colonised women and their larger numbers, more cases of neonatal sepsis occurred in non-GBS-colonised women (n = 17) than in the GBS-colonised women (n = 8). There were also many more cases of clinical chorioamnionitis (8 GBS, 17 non-GBS) and histological chorioamnionitis (27 GBS, 110 non-GBS) in the non-GBS-colonised women. Chorioamnionitis is an important outcome because it is associated with an increased risk of cerebral palsy of between 40% and 400% in late preterm births, depending on the duration of membrane rupture (Wu et al. *JAMA* 2003;290:2677–84).

Tajik et al.'s data show the conundrum. They propose IOL in GBS-colonised women but this would focus on a small group of high-risk, colonised women and miss most cases of neonatal sepsis. Moreover, prenatal screening to detect GBS colonisation in women with PPROM could delay treatment for those with GBS colonisation, pending test results, which have limited accuracy, and the large number of GBS-negative women might not receive antibiotics at all. The best available evidence suggests that all women with PPROM should be offered prenatal antibiotics, although if maternal GBS status is known, the results from Tajik et al. suggest there may be added benefit of early delivery.

Disclosure of interests

The author declare no conflicts of interest. ■