Planned early birth versus expectant management (waiting) for prelabour rupture of membranes at term (37 weeks or more)

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Planned management of women with prelabour rupture of membranes at term reduces the risk of infection-related maternal morbidity without increasing the rates of Caesarean section and operative vaginal birth. In addition, fewer infants need intensive neonatal care, although neonatal infection rates remain unchanged.

RHL Commentary by Suwannachat B

1. EVIDENCE SUMMARY

This review (1) compared the effects on fetal, infant and maternal wellbeing of planned early birth versus expectant management (waiting) for women with term prelabour rupture of membranes (PROM). Planned management included mostly induction of labour with prostaglandins or oxytocin and, in one trial, with caulophyllum. The review includes 12 trials of women who had prelabour rupture of membranes at 37 or more weeks’ gestation with no specific maternal or fetal contraindications to either type of management strategy. The review findings were dominated by an international multicentre trial conducted in six countries with the participation of 5000 women (2). Planned management reduced the risk of chorioamnionitis [relative risk (RR) 0.74, 95% confidence interval (CI) 0.56–0.97] with the number needed to treat (NNT) of 50, implying that for every 50 women undergoing planned management one case of chorioamnionitis would be avoided. Reductions were also found in the risks of endometritis (RR 0.30, 95% CI: 0.12–0.74) and infants being admitted to a neonatal intensive unit or requiring special care (RR 0.72, 95% CI: 0.57–0.92, NNT 20). More women were satisfied with the care they received (RR of “nothing liked” 0.43, 95% CI: 0.36–0.52 NNT 14), and there was a shorter time from rupture of membranes to birth (weighted mean difference -9.53 hours, 95% CI: -12.56 to -6.10) with planned early management. As expected, there was an increase in the use of labour induction (RR 3.51, 95% 3.03–4.05) in the planned management groups.

The review found no statistically significant differences in the risk of Caesarean section, operative vaginal birth, postpartum fever, use of epidural anaesthesia, uterine rupture, cord prolapse, neonatal infection, fetal or perinatal mortality, Apgar score < 7 at 5 minutes, mechanical ventilation, length of stay in the neonatal intensive care unit and breastfeeding duration. The authors concluded that planned management reduces the risk of infection-related maternal morbidity without increasing the rates of Caesarean section and operative vaginal birth. Also, with planned management, fewer infants need intensive neonatal care, although neonatal infection rates remain unchanged.

The methods used to search and retrieve the trials, assess their methodological quality and conduct data extraction and analysis were sound.
2. RELEVANCE TO UNDER-RESOURCED SETTINGS

2.1. Magnitude of the problem

PROM is defined as rupture of membranes before the onset of labour. PROM occurs most frequently at term (37 weeks or more of gestation), with the overall incidence at term being around 8% (3). Spontaneous onset of labour after PROM at term usually follows within 24 hours, with 79% of women labouring spontaneously within 12 hours, and 95% within 24 hours (4, 5) regardless of the status of the uterine cervix.

PROM at term may be managed expectantly or by induction of labour using oxytocin and prostaglandin as appropriate. Expectant management involves waiting for a pre-defined period for labour to start spontaneously and then making a management decision (such as inducing labour) if labour does not begin spontaneously.

PROM may pose immediate risks such as cord prolapse, cord compression and placental abruption. PROM is believed to have an association with maternal and fetal infection with the risk considered to increase proportionally to the time between membrane rupture and birth. PROM increases the risk of Caesarean section and duration of stay in hospital (6, 7).

2.2. Applicability of the results

The trials included in the review were conducted in various settings, although most were in developed countries. However, except for the possible problem of unavailability of expensive prostaglandin preparations in developing countries, the results as such should be applicable to most low- and middle-income countries. The use of low-dose misoprostol for labour induction would eliminate the need for the more expensive prostaglandin products.

2.3. Implementation of the intervention

A potential barrier to the implementation of planned early birth for the management of PROM is the possible lack of knowledge on the part of midwives and obstetricians about the intervention's benefits. Other potential barrier include: the lack of an evidence-based policy or clinical practice guidelines for the management of PROM at term; and the pregnant women’s and their families’ lack of knowledge of the risks and benefits of the options available to women. Implementation of this intervention will be facilitated if women are educated about the available evidence and are able to make an informed choice.

3. RESEARCH

Future research should be directed towards of the best ways of implementing a policy of planned management of term PROM at term and auditing its use and effects.

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