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Planned birth at or near term for improving health outcomes for pregnant women with pre-existing diabetes and their infants

Authors: Biesty LM, Egan AM, Dunne F, Smith V, Meskell P, Dempsey E, Ni Bhuinneain G, Devane D

What is the issue?

The aim of this Cochrane review was to find out if planning an elective birth at or near the term of pregnancy, compared to waiting for labour to start spontaneously, has an impact on the health of women with diabetes and the health of their babies. This review focuses on women who have diabetes before becoming pregnant (pre-existing diabetes). Elective birth is carried out either by induction of labour or caesarean section, and 'at or near term' means 37 to 40 weeks' gestation.

To answer this question, we searched for all relevant studies (date of search: 15 August 2017), with the aim of collecting and analysing them together.

Why is this important?

When women with diabetes (Type 1 or Type 2) become pregnant they are at higher risk of complications than women who do not have diabetes. For example, their babies may be larger and have a higher risk of death in the later weeks of pregnancy. Because of these risks, many clinicians have recommended that women with diabetes have an elective birth (usually by induction) at or near term (37 to 40 weeks' gestation), rather than waiting for labour to start spontaneously or until 41 weeks' gestation if all is well. Induction has the disadvantage of increasing the incidence of forceps or ventouse births, and women often find it difficult to

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cope with an induced labour. Caesarean section is a major operation which can lead to blood loss, infections and increased chance of problems with subsequence births. Early birth can increase the chance of breathing problems for babies. It is important to know which approach to birth has a better impact on the health outcomes of women with pre-existing diabetes and their babies.

What evidence did we find?

We found no studies that addressed our specific question.

What does this mean?

In the absence of randomised studies, we are unable to say if women with pre-existing diabetes and their babies experience better health outcomes if they have a planned birth (by induction of labour or caesarean section at 37 to 40 weeks' gestation) compared to waiting for labour to begin spontaneously or until 41 weeks' gestation if all is well. More research is needed to answer this question.

Antibiotics for treating gonorrhoea in pregnancy

Authors: Comunián-Carrasco G, Peña-Martí GE, Martí-Carvajal AJ

What is the question?

Gonorrhoea is an infection caused by the *Neisseria gonorrhoeae* bacteria, and is a major public health challenge. It is most frequently spread during sexual contact (i.e. vaginal intercourse, oral sex, or anal sex), but can also spread from a pregnant woman to her baby during delivery. Women often do not have any symptoms of gonorrhoea. The gonorrhoea organisms can spread (disseminate) from an initial local site into the blood and cause infection of other organs. Symptoms of disseminated gonococcal infection include rash, fever, joint pain, infection of joints, and inflammation of tendons, the inner lining of the heart (endocarditis), and the membranes covering the brain and spinal cord (meningitis). We reviewed the clinical effectiveness and adverse effects of antibiotics for treating gonorrhoea in pregnant women.

This review updates and replaces an earlier Cochrane Review on this topic.

Why is this important?

Gonorrhoea can cause problems for both the pregnant woman and her baby. It is associated with preterm delivery, pre-labour rupture of the membranes, low birthweight, and inflammation of the inner lining of the uterus (endometritis) after giving birth. Babies can become infected during birth, and occasionally by the spread of the infection before birth, when the membranes rupture too early before birth. This can result in eye infections (ophthalmia neonatorum - an eye infection contracted during birth) as the baby passes through the birth canal.

What did we find?

We searched for evidence in April 2017 and found two randomised controlled trials, conducted in outpatient

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departments of the same two hospitals in the USA, between 1993 and 2001. One trial was sponsored by a drug company. The trials randomised a total of 514 pregnant women (347 women analysed), at an average gestational age of 22 weeks. Both trials had a follow-up of 14 days.

We were unable to pool the results because the trials used different comparisons. One trial compared ceftriaxone (125 mg, intramuscular) with cefixime (400 mg, oral), and the other trial assessed a higher dose of ceftriaxone (250 mg, intramuscular) versus either amoxicillin (3 g, oral) plus probenecid (1 g, oral) or spectinomycin (2 g, intramuscular). We did not include data from the spectinomycin group because this medication is no longer produced.

We found no clear difference in the rate of cure of gonococcal infection (both genital and unrelated to the genital organs) for the different treatment groups, which was in the order of 89% to 96% (very low-quality evidence).

Trials did not report on the incidence of obstetric complications, disseminated gonococcal infection in the mother, or ophthalmia neonatorum in the baby.

They provided little information on side effects of the antibiotic regimens. One trial reported one case of vomiting in the oral amoxacillin plus probenecid group. Trials reported pain at the injection sites, but did not report numbers or severity. Hyperberbilurrubinemia (where the baby has too much bilirubin in the blood) was more frequent in newborns whose mothers were exposed to ceftriaxone. There was no clear difference between groups for neonatal malformation.

What does this mean?

We found high levels of cure of gonococcal infection in pregnancy with the given antibiotic regimens, but here was not enough evidence to support one particular regimen over another.

Despite high levels of cure, our confidence in the results of this review is very low because both included trials were small, did not blind women to which treatment they received, and had a high number of withdrawals (28% and 41%), meaning they were at high risk of bias. Therefore, there is a need for high-quality trials to be conducted to assess the clinical effectiveness and potential harms of antibiotics for treating gonorrhoea in pregnancy women.

Antifibrinolytic drugs to treat heavy bleeding after childbirth

Authors: Shakur H, Beaumont D, Pavord S, Gayet-Ageron A, Ker K, Mousa HA

What is the issue?

Antifibrinolytic drugs such as tranexamic acid (TXA) reduce breakdown of clots which form to stop bleeding and have been shown to reduce bleeding in surgery and to safely reduce mortality in patients with bleeding following injury without increasing the risk of adverse events. This review assesses the safety and effects of

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antifibrinolytic drugs in women with primary postpartum haemorrhage (PPH) (heavy bleeding within the first 24 hours after giving birth).

An earlier Cochrane review on treatments for primary PPH covered all the various available treatments; that review has now been split by types of treatment. This new review concentrates only on the use of antifibrinolytic drugs for treating primary PPH.

Why is this important?

Postpartum haemorrhage is one of the main causes of death of women after childbirth and can also cause anaemia and other serious complications.

What evidence did we find?

We searched for evidence on 28 May 2017 and found three trials which met the inclusion criteria for the review. Participants in the trials were women after birth following a pregnancy of at least 24 weeks' gestation with a diagnosis of PPH, regardless of whether they had a vaginal or caesarean section. We identified three trials (involving 20,412 women). However, one of the trials (based in Iran) did not report important outcomes, therefore, our findings are based on two trials (involving 20,212 women) conducted in hospital settings in high-, middle- and low-income countries. One was a large trial that included more than 20,000 women, and both studies looked at the effectiveness and safety of intravenous (IV) TXA compared with placebo (dummy treatment) or no treatment. In both trials TXA was given in addition to usual care to treat bleeding. The trial contributing most of the information to the review was at low risk of bias.

Our results show that TXA reduces the risk of maternal death due to bleeding (*quality of evidence: moderate*). There were fewer deaths from all causes but the findings were uncertain (*quality of evidence: moderate*). In one trial with a small sample size additional blood loss of 500 mL or more was also reduced (151 women; *quality of evidence: low*). TXA had little or no effect on the risk of serious maternal illness (*quality of evidence: high*), or complications such as stroke or deep venous thrombosis (*quality of evidence: moderate).* Rates of hysterectomy to control bleeding (*quality of evidence: high*) and blood transfusion (*quality of evidence: moderate*) were similar for women receiving TXA versus placebo. There was an increase in one surgical intervention (brace sutures) in the TXA group and a reduction in another (laparotomy to control bleeding) but there were no clear differences between groups for other surgical and invasive procedures.

What does this mean?

TXA when administered intravenously was effective in reducing mortality due to bleeding when given within three hours in women with primary postpartum haemorrhage without increasing the risk of other complications.

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Facilities for IV administration is not available in some settings so future research could look at whether TXA is effective and safe if given by other methods.

If you have any questions or comments with regard to the above document please feel free to contact me.

Kind regards

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