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Immediate delivery or expectant management of the term baby with suspected fetal compromise for improving pregnancy outcomes

Authors: Bond DM, Gordon A, Hyett J, de Vries B, Carberry AE, Morris J

For healthy pregnant women at term, several factors can indicate that the baby's health is at risk. These may be based on either clinical examination or history. Babies not growing appropriately (intrauterine growth restriction) or showing a decrease in their movements may indicate the placenta is not functioning as well as it should, while investigations such as cardiotocography (CTG) and ultrasound can measure amniotic fluid, blood flow or the size of the baby in order to assess the baby's well-being. Results that are clearly abnormal and associated with increased risk for the baby require immediate delivery, but the management for 'suspicious' results remains unclear and varies widely across clinical centres. The balance between allowing the pregnancy to continue for full lung development has to be weighed against removing the baby from an environment that is suspected to be harmful. The best timing of delivery for women presenting with a suspected compromised baby in an otherwise healthy term pregnancy is unclear.

We identified three randomised controlled trials that met our inclusion criteria. They included a total of 546 pregnant women at 37 weeks gestation or more; 269 had a planned early delivery and 277 were managed expectantly. Two of the trials compared outcomes in a total of 492 babies with growth restriction and one involved 54 pregnancies with decreased amniotic fluid (oligohydramnios). Overall, there were no major differences between these two strategies as to whether infants survived, were extremely sick, or had developmental problems as children. There were also no differences as to whether mothers died or were extremely unwell. The risks of breathing difficulty, poor condition at birth, admission to neonatal intensive care unit, infection, and babies with low blood sugars were no different between the two groups. The gestational age at birth was on average 10 days earlier in women randomised to early delivery and

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more infants in the planned early delivery group were admitted to intermediate care nursery. Although there was no difference in the number of babies with birthweight less than the 10th percentile between the two groups, there were more extremely small babies (< 2.3rd percentile) found in the expectant management group. Women in the early delivery group were more likely to be induced. All three trials were of reasonable quality and at low risk of bias.

In summary, there is insufficient evidence from randomised trials to guide clinical practice regarding earlier delivery versus waiting for term pregnancies where there is a suspicion of fetal compromise. Included trials only addressed growth restriction or oligohydramnios and none of the other potential indications such as decreased fetal movements, ultrasound or CTG abnormalities. Further research is needed to assess the best timing of delivery for these indications.

Nutritional advice for improving outcomes in multiple pregnancies

Authors: Bricker L, Reed K, Wood L, Neilson J

In multiple pregnancies (twins, triplets and more), the metabolic rate of the mother is greater than in women who are carrying a single baby so that a high-calorie diet may also help maintain the mother's nutritional state. Multiple pregnancies have a higher risk of complications for women and their babies than do single pregnancies. In particular, poor growth of the babies in the womb, premature birth, and low birthweights are more common.

It has been suggested that a special high-calorie diet for the pregnant woman might improve the outcomes for babies. However, boosting weight gain artificially might not bring any advantage and might be unpleasant for the mother. It might even contribute to long-term problems for her of being overweight. This Cochrane review aimed to identify quality controlled studies that compared special diets with normal diets, or trials that looked at advice on special diets, but found none. That is, there is no evidence from randomised trials to advise whether specific dietary advice for women with multiple pregnancies does more good than harm.

Screening tests for Down’s syndrome in first three months of pregnancy

Authors: Alldred S, Takwoingi Y, Guo B, Pennant M, Deeks JJ, Neilson J, Alfirevic Z

Background

Down's syndrome (also known as Down's or Trisomy 21) is an incurable genetic disorder that causes significant physical and mental health problems, and disabilities. However, there is wide variation in how Down's affects people. Some individuals are severely affected whilst others have mild problems and are able to lead relatively normal lives. There is no way of predicting how badly a baby might be affected.

Expectant parents are given the choice to be tested for Down’s during pregnancy to assist them in making decisions. If a mother is carrying a baby with Down’s, then there is the decision about whether to terminate or continue with the

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pregnancy. The information offers parents the opportunity to plan for life with a Down's child.

The most accurate tests for Down's involve testing fluid from around the baby (amniocentesis) or tissue from the placenta (chorionic villus sampling (CVS)) for the abnormal chromosomes associated with Down's. Both these tests involve inserting needles through the mother's abdomen and are known to increase the risk of miscarriage. Thus, the tests are not suitable for offering to all pregnant women. Rather, tests that measure markers in the mother's blood, urine or on ultrasound scans of the baby are used for screening. These screening tests are not perfect, they can miss cases of Down's and also give a 'high risk' test result to a number of women whose babies are not affected by Down's. Thus, pregnancies identified as 'high risk' using these screening tests require further testing using amniocentesis or CVS to confirm a diagnosis of Down's.

What we did

The aim of this review was to find out which of the blood screening tests done during the first three months of pregnancy are the most accurate at predicting the risk of a pregnancy being affected by Down's. We looked at 18 different blood markers that can be used alone or in combination, taken before 14 weeks gestation, thus creating 78 screening tests fro Down's. We found 56 studies, involving 204,759 pregnancies of which 2113 had pregnancies affected by Down's.

What we found

For the first 14 weeks of pregnancy, the evidence supports the use of the double test of two blood markers; pregnancy-associated plasma protein A (PAPP-A) and free beta human chorionic gonadotrophin (βhCG), in combination with the mother's age. This test detects around seven out of every 10 (68%) pregnancies affected by Down's. It is common practice to offer amniocentesis or CVS to women with a high risk test result. About one in 20 women (5%) having this test will have a 'high risk' result but most of these women will not be carrying a baby with Down's. We found for tests in the first 14 weeks of pregnancy, there is little evidence to support the use of serum tests made up of more than two blood markers.

Other important information to consider

The blood tests themselves have no adverse effects for the woman, over and above the risks of a routine blood test. However some women who have a 'high risk' screening test result, and are given amniocentesis or CVS have a risk of miscarrying a baby unaffected by Down's. Parents will need to weigh up this risk when deciding whether or not to have an amniocentesis or CVS following a 'high risk' screening test result.

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Screening tests for Down's syndrome in first 24 weeks of pregnancy

Authors: Alldred S, Guo B, Takwoingi Y, Pennant M, Wisniewski S, Deeks JJ, Neilson J, Alfirevic Z

Background

Down's syndrome (also known as Down's or Trisomy 21) is an incurable genetic disorder that causes significant physical and mental health problems, and disabilities. However, there is wide variation in how Down's affects people. Some individuals are severely affected whilst others have mild problems and are able to lead relatively normal lives. There is no way of predicting how badly a baby might be affected.

Expectant parents are given the choice to be tested for Down's during pregnancy to assist them in making decisions. If a mother is carrying a baby with Down's, then there is the decision about whether to terminate or continue with the pregnancy. The information offers parents the opportunity to plan for life with a Down's child.

The most accurate tests for Down's involve testing fluid from around the baby (amniocentesis) or tissue from the placenta (chorionic villus sampling (CVS)) for the abnormal chromosomes associated with Down's. Both these tests involve inserting needles through the mother's abdomen and are known to increase the risk of miscarriage. Thus, the tests are not suitable for offering to all pregnant women. Rather, tests that measure markers in the mother's blood, urine or on ultrasound scans of the baby are used for screening. These screening tests are not perfect, they can miss cases of Down's and also give a 'high risk' test results to a number of women whose babies are not affected by Down's. Thus, pregnancies identified as 'high risk' using these screening tests require further testing using amniocentesis or CVS to confirm a diagnosis of Down's.

What we did

The aim of this review was to find out which of the urine screening tests done during the first 24 weeks of pregnancy are the most accurate at predicting the risk of a pregnancy being affected by Down's. We looked at seven different urine markers that can be used alone, in ratios or in combination, taken before 24 weeks' gestation, thus creating 24 screening tests for Down's. We found 19 studies, involving 18,013 pregnancies of which 527 had pregnancies affected by Down's.

What we found

For the first 24 weeks of pregnancy, the evidence does not support the use of urine tests for Down's syndrome screening. The amount of evidence is limited. These tests are not offered in routine clinical practice.

Other important information to consider

The urine tests themselves have no adverse effects for the woman. However, some women who have a 'high risk' screening test result, and are given amniocentesis or CVS have a risk of miscarrying a baby unaffected by Down's.

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Parents will need to weigh up this risk when deciding whether or not to have an amniocentesis or CVS following a 'high risk' screening test result.

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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