DAILY MAIL (London)

**March** 10, 2016 Thursday

**GENE THERAPY** IN THE WOMB FOR ILL BABIES  
  
**BYLINE:** BY FIONA MACRAE SCIENCE EDITOR  
  
**LENGTH:** 601 words

DESPERATELY ill babies could have their lives saved by a pioneering treatment given while they are still in the womb.

In a world first, doctors at a British hospital plan to give injections of genes to mothers-to-be whose unborn children have stopped growing.

It is hoped that the genes will boost blood flow to the placenta, the lifeline between mother and baby, providing the child with the oxygen and nutrients needed to thrive and survive.

The treatment aims to help women whose babies are suffering from a condition called **foetal** **growth restriction**, in which growth slows down or even stops completely around halfway through pregnancy. The majority of cases are caused by a failure of the placenta.

With no treatment available, those whose babies are most severely affected are faced with choosing between having their baby delivered very prematurely, with all the risks that involves, or continuing with the pregnancy knowing their child might die in the womb.

Those babies that survive have a higher risk of numerous problems, from cerebral palsy to diabetes and heart disease. Up to one in ten babies suffer some form of **foetal** **growth restriction** and some 11,000 pregnancies a year in Europe are severely affected.

The trial, which is due to start at University College London Hospital next year, subject to ethical approval, aims to help the worst cases. Between 15 and 24 women will be given injections of genes that make a protein called VEGF that is known to boost blood flow.

The genes will be inserted into arteries that supply the woman's womb with blood, in the hope that they will pump out a supply of the protein, boosting blood supply to the womb and placenta and providing the **unborn** **baby** with the nourishment it needs to grow.

Anna David, the University College London doctor leading the international consortium behind the project, said: We hope that the baby is going to carry on growing.

It would be lovely if it carried on growing to the end of her pregnancy but I doubt that is going to happen. But even if growth continued for four weeks, that would be amazing because it would completely transform the outcome of the pregnancy.'

**Gene** **therapy** has been used before to treat children with rare genetic conditions. However, it is thought this will be the first time it has ever been attempted in the womb.

Importantly, from a safety point of view, the genes will be given to the mother, rather than the child.

While the treatment might save the baby, it is possible it will still be far from well. This raises the ethical question of whether it is right to treat an unborn child, only for it to be born with a serious disability, when without treatment they would have died.

Dr David said: When we talked to parents who'd experienced pregnancies affected by **foetal** **growth restriction**, they were very, very certain that they'd want to give their baby a chance.'

Professor Richard Ashcroft, Professor of Bioethics at Queen Mary University of London said the breakthrough could save thousands of lives'.

Our study concluded that there were no ethical or legal objections to a trial,' he said. Women who had experienced pregnancies affected by **foetal** **growth restriction** were generally interested in participating in clinical trials which might potentially benefit their unborn child.'

Jane Brewin, of baby charity Tommy's, said: When babies fail to grow in the womb early on in pregnancy parents are faced with devastating consequences. This treatment offers a glimmer of hope that we might be able to save those babies and offers the possibility to improve the lifelong chances of others.'

© Daily Mail